

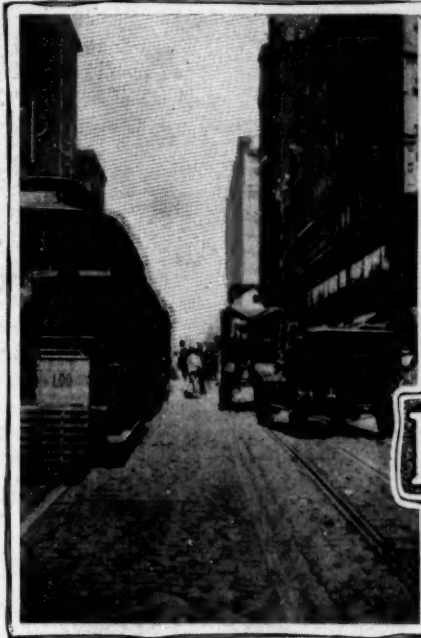
# MOTOR AGE

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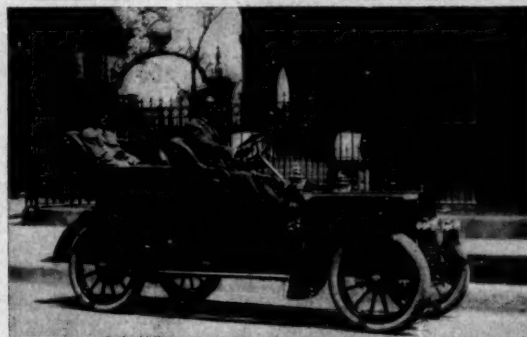
CHICAGO, JUNE 14, 1906

\$2.00 Per Year

## ZIG-ZAGGING THE LOOP ON DIRECT DRIVE



POCKETED ON STATE STREET



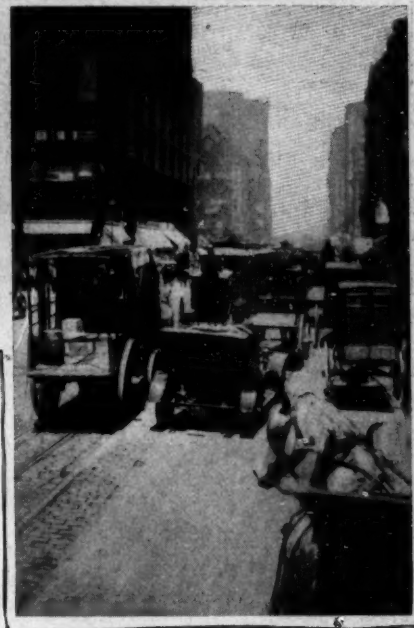
POSING AFTER STOP

**F**

LEXIBILITY, the ambition of designers and builders of gasoline engines, was amply demonstrated last week in Chicago, when a 30-horsepower, four-cylinder Dorris touring car, with four pas-

sengers, made a complete tour of the "loop" district on the high speed between the hours of 11 a. m. and 12 noon, when traffic was at its height. The test, conducted specially by Motor Age, was made for the purpose of testing the efficiency of a four-cylinder motor for a period of over 1 hour, the car during the entire time being operated upon the busiest city streets and in the very heart of the city, the third or direct speed being used the entire time, whether traveling at 20 miles per hour, gliding past caravans of heavily-laden freight wagons at a 10-mile clip, meandering through a maze of vehicles at 6 miles, crawling for blocks behind horse wagons, traveling at a slow walk or barely moving over crossings which were veritable checker-boards of pedestrians and moving vehicles. The test proved a success. Never once was there the slightest call for a slower speed, never once was a slower speed needed in starting in congested places and never once was the motor speed raised above normal, it running at from 400 to 700 revolutions per minute the whole time.

For those not familiar with the "loop" district in the Windy city, suffice it to say that it is the heart of the city, embracing the entire retail district, the financial section, a portion of the wholesale area and most of the legal section. In length from north to south it measures seven blocks, the total length of them



STATE STREET CONGESTION

being 3,250 feet; from east to west it contains five blocks, with a total length of 2,070 feet. The trip commenced at the corner of Van Buren street and Wabash avenue, the route being as indicated by the arrows in the map. In the first half the trip was along the streets lying north and south, being up one and down the next. In the second part a similar zig-zagging was made over the streets lying east and west, the start being for this half at the corner of Fifth avenue and Van Buren street and terminating at Lake street and Fifth avenue.

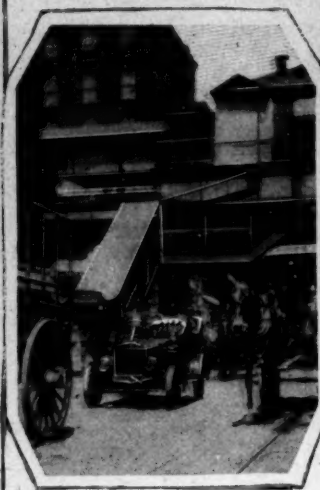
By accurate measurement the total distance amounted to 6 miles 4,380 feet, the time required to cover the course being 1 hour 11 minutes. Of this 1 minute 46 seconds were consumed in six stops occasioned by traffic congestion, leaving the exact traveling time 1 hour 9 minutes 14 seconds. The car averaged 5.88 miles per hour, not very fast traveling for a motor car, but a most creditable performance when it is remembered that of the fourteen streets covered thirteen of them have car tracks, Jackson boulevard being the only exception. All four streets on which the turns were made and which form the loop boundaries—Van Buren street, Wabash avenue, Lake street and Fifth avenue—have not only surface lines but elevated tracks, the latter necessitating a regular bridgework rising from the street with a row of steel pillars along each side of the surface car tracks. With the exception of Jackson boulevard and short stretches on a few other streets, the entire run was made over cobblestone pavement that was very greasy during the first



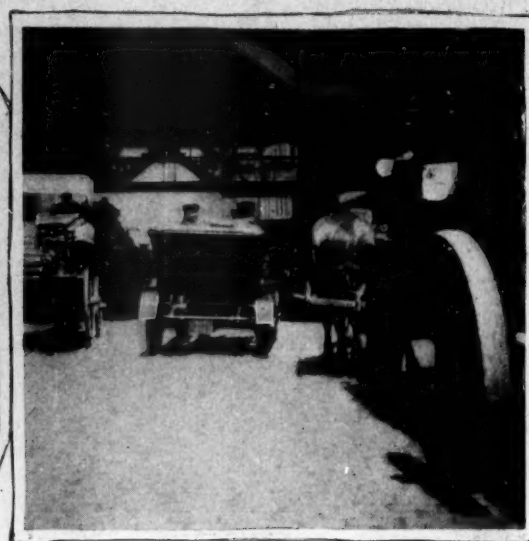
HIGH SPEED START ON STEEP RISE



TWO BLOCKS AT SNAIL PACE



IN THE MAZE



TURNING BENEATH ELEVATED

part of the run owing to a heavy forenoon rain. No attempt was made at establishing a speed record, attention at all times being paid to the speed ordinance as well as to the traffic conditions.

Arrangements made for the test embraced the securing of J. T. Rumble, of the Dorris Motor Car Co., St. Louis, Mo., who was demonstrating in Chicago and who consented to use his car, it entering the test without any special adjustment or preparation beyond the filling of the gasoline tank and taking on a fresh oil supply in the lubricator. For the observation of the car's performance three passengers were taken: One for watching the change speed lever and recording the speeds at every part of the route, care being taken to record the speed at every crossing and once or twice between each cross street; another, with stop watch, for taking the exact time required on each street, the length of all stops and the time of start and completion; and a third for observing the driver, noting how the throttle was handled, what changes were made with the spark lever, how the clutch was operated and the general problem of running in congested places on the high speed.

Starting at the corner of Van Buren street and Wabash avenue the run north on Wabash beneath the elevated tracks was made at an average speed of 7 miles per hour, the car making 10 miles in many places but slowing to 2 and 3 miles at the crossings. Going south on State the greatest congestion was encountered. State street, better known as Shoppers' Place, is lined on either side with the big department stores and smaller retail houses. Besides the heavy street car traffic and the multitudes of horse vehicles and automobiles, there is the constant army of pedestrians, mostly women, whose actions at street crossings in the presence of motor cars are not always conducive to speed. All the way it was throttle and clutch—first one and then the other. With the clutch slipping, the throttle was shut to one-tenth and with an opening ahead the clutch was slipped in and throttle opened to one-quarter, the spark at all times being the same—at one-third advance. Throughout the entire trip changes of the spark advance were not made except when starting on an incline, which was done on three different occasions for test purposes.

To go into a close detail of the "up one street and down the next" of the trip would be tedious. Suffice it to say that not once from start to finish did the engine falter; not once was the throttle opened to the half and in general the running was done with it ranging from one-sixteenth open to one-eighth, it occasionally going to the quarter mark when picking up very rapidly to take advantage of an opening in the traffic ahead.

Car operators may imagine that controlling a car entirely by the throttle and clutch, when traveling on high speed in a most congested district, means an endless shifting of the throttle lever and unceasing "in and out" of the clutch. Such is not the case. True it is that these controlling mediums are in fairly constant

service, but their operation does not approach a hardship. By actual count, while traveling north on Dearborn street from Van Buren to Lake, seven blocks, the throttle was altered only nine times, all of which movements were accomplished by the second and third fingers of the driver's left hand, the thumb and first finger never being taken off the steering wheel. In this car both throttle and spark levers are mounted on quadrants on the left of the steering column and approximately a couple of inches beneath the rim of the steering wheel. During the same time the clutch pedal was moved twelve times in all; twenty-one movements being necessary in the control of the car; but all of which were effected without either hand being removed from the wheel or the eye taken off the masses of entangling and disentangling teams ahead. The congestion on Dearborn street was typical of that throughout the entire test. Taking it as an average, the

#### SPEED ON NORTH AND SOUTH STREETS

**START VAN BUREN STREET**—Started corner Van Buren and Wabash; Wabash to Jackson, about 10 miles per hour; Adams to Monroe, 10 miles; Monroe to Madison, 10 miles, slowed to 3 miles corner Madison; Madison to Washington, 8 miles; Washington to Randolph, 8 miles; Randolph to Lake, 5 to 2 miles, 2 miles at crossing.

**LAKE STREET**—Wabash to State, 3 miles; 2 miles at crossing.

**STATE STREET**—Lake to Randolph, 6 miles, 2 miles at crossing; Randolph to Washington, 5 miles, 3 miles at crossing; Washington to Madison, 4 miles, slow walk at crossing; Madison to Monroe, slow walk, following team going very slow—6 to 4 miles—slow; Monroe to Adams, 7 miles to 4 miles behind street car; Adams to Jackson, 4 to 2, to walk; Jackson to Van Buren, 8 to 4, 3 to 1, to walk.

**VAN BUREN STREET**—From State to Plymouth Place, 3; Plymouth to Dearborn, 4.

**DEARBORN STREET**—Van Buren to Jackson, 5 to 3; Jackson to Adams, 4 to 2, 2 at crossing; Adams to Monroe, 5 to 2, at crossing slow walk; Monroe to Madison, 6 to 4, to 2 behind car, crossing 2; Madison to Wabash, 3 to 5, 6, crossing 3; Wabash to Randolph, 7 to 5, 5 at crossing; Randolph to Lake, 9 to 4, 4 at crossing.

**LAKE STREET**—Dearborn to Clark, 6.

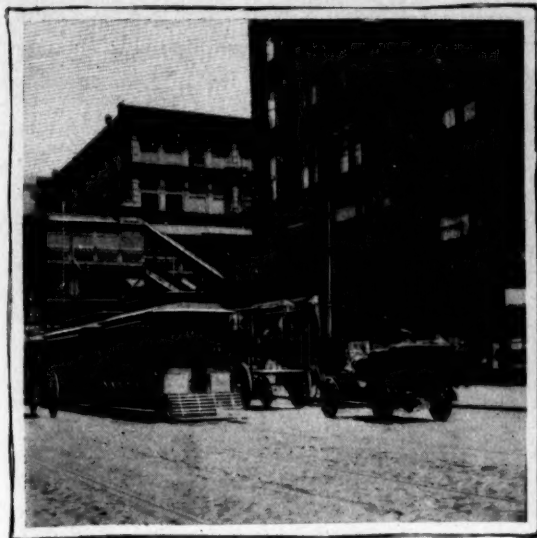
**CLARK STREET**—Lake to Randolph, 7-6-5, 3 at crossing; Randolph to Washington, 6 to 4, 3 behind buggy to slow walk at crossing; Washington to Madison, 5 to 3 at crossing; Madison to Monroe, 5 to 6, 4 to 2, 3 at crossing; Monroe to Adams, 5 to 6, 4 at crossing; Adams to Jackson, 8 to 5, crossing 4; Jackson to Van Buren, 8 to 6, 4 to 2, walk.

**LA SALLE STREET**—Van Buren to La Salle street, 5, 2 at crossing; Van Buren to Jackson, 3, 2 behind wagon, walk, nearly stopped, then stopped, 2 behind wagon; Jackson to Adams, 3 to 6, 15-10, crossing 5; Adams to Monroe, 6 to 8, 10 to 5, crossing 3, slow walk; Monroe to Madison, 5 to 8, 10, crossing 6; Madison to Washington, 10, crossing 10; Washington to Randolph, 12, crossing 4, slow walk; Randolph to Lake, 12 to 10, walk behind wagon, crossing slow.

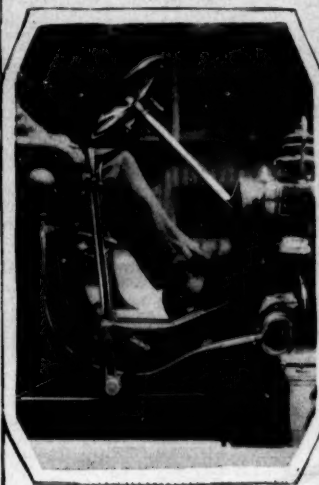
**LAKE STREET**—Behind car, to walk, stopped for car, crossing slow walk.

**FIFTH AVENUE**—Lake to Randolph, 8 to 4, 2 to 5, 6; Randolph to Washington, 5, stopped for street car, 6 miles at crossing; Washington to Monroe, 5 to 4, behind car, crossing 3; Monroe to Adams, slow walk, behind wagon, crossing 8; Adams to Jackson, 10 to 6; Jackson to Van Buren, 8, 10, 2, stopped in hole; Jackson to Van Buren, 14, crossing 4.





AFTER A SHORT SPRINT



NO LONGER NEEDED



A STOP WAS COMPULSORY

throttle would be moved but 100 times and the clutch slightly more. The number of applications of the regular brake was beyond the range of calculation owing to the method of applying it. The clutch pedal when fully depressed applies this brake, but the eye proved insufficient to tell when the clutch was fully out and the brakes partly gripping or when the brake was not acting but the clutch slipping. Only once was recourse had to the emergency brakes and that when an inconsiderate teamster—and their number is legion—drove over a crossing at a rate beyond the speed limit and much to the danger of pedestrians. As for the horn—well, 23 for it—it was never needed. A careful driver never needs it; it is the necessity of the poor novice and when used results in a spasm of consternation among the pedestrians which generally results in a little antagonism toward the motor car and little gain of time to the motorist.

### SPEED ON EAST AND WEST STREETS

**VAN BUREN STREET**—Fifth avenue to Sherman street, 5-2 at crossing; Sherman to La Salle, 15, crossing 10; La Salle to Clark, 12, crossing slow walk; Clark to Custom House Place, 20 miles, crossing 10; Custom House to Dearborn, 8-6; Dearborn to State, 20 to 4, slow walk behind wagon, crossing 5; State to Wabash, 6, horse trot.

**WABASH AVENUE**—Van Buren to Jackson, 12-15-8, slow walk at crossing.

**JACKSON BOULEVARD**—Wabash to State, 14-10, crossing slow walk, very slow passing wagons; State to Dearborn, 12, crossing 5; Dearborn to Clark, 15, crossing 10; Clark to La Salle, 10 to 8, crossing 6; La Salle to Fifth avenue, 10 to 8, crossing 7.

**FIFTH AVENUE**—Jackson to Adams, slow walk to start, behind wagon all the way, nearly stopped, crossing 6.

**ADAMS STREET**—Fifth avenue to La Salle street, 10, crossing slow, walk, nearly stopped; La Salle to Clark, 12, crossing 8; Clark to Dearborn, 8 to 10, crossing walk; Dearborn to State, 10, crossing 4; State to Wabash, 8, crossing 5.

**WABASH AVENUE**—Adams to Monroe, 20, crossing 8.

**MONROE STREET**—Wabash to State, 15, slow walk; State to Dearborn, 15, crossing 8; Dearborn to Clark, 14, 5 at crossing; Clark to La Salle, 18, crossing 6; La Salle to Fifth avenue, 14, crossing slow walk.

**FIFTH AVENUE**—Monroe to Madison, 12 to 5, crossing walk.

**MADISON STREET**—Fifth avenue to La Salle street, 15; La Salle street to Clark, slow walk to 10, crossing 10; Clark to Dearborn, 12, walk-6; Dearborn to State, 12, crossing slow walk, nearly stopped; State to Wabash, 15, crossing 10.

**WABASH AVENUE**—Madison to Washington, 15, crossing 10.

**MADISON STREET**—Wabash to State, 12, crossing slow walk; State to Dearborn, 10, behind car; Dearborn to Clark, 15 to 20, crossing 5; Clark to La Salle, 15 to 12; La Salle to Fifth avenue, 20, crossing 8.

**FIFTH AVENUE**—Wabash to Randolph, slow walk, behind wagon all the way, crossing walk.

**RANDOLPH STREET**—Fifth avenue to La Salle, 15 to 12; La Salle street to Clark, 15, crossing 8; Clark to Dearborn, 10, crossing 6; Dearborn to State, 6, stopped, crossing walk; State to Wabash, 12.

**WABASH AVENUE**—Randolph to Lake, 12, 10 at crossing.

**LAKE STREET**—Wabash to State street, 12, crossing walk; State to Dearborn, 15-10, crossing 10; Dearborn to Clark, 10, slow walk behind car, crossing 6; Clark to La Salle, 12, crossing 12; La Salle to Fifth avenue, stopped, walk, 8 crossing.

**FIFTH AVENUE**—Lake to Kinzie street, 10, 10 up bridge approach, stopped on grade, start O. K., took grade after start, 8.

The traffic encountered was representative of that existing in the busiest part of any large city. At times the motor car traveled an entire block behind a line of six to ten horse vehicles, there not being a possibility of getting ahead because of street cars. In one of such cases the clutch was engaged fully for one and one-half blocks, speed as low as a slow walk and up to 12 miles an hour being gained by changing the throttle lever. When on Clark street passing the site where the new county building is in course of erection the clutch was slipped constantly for a couple of blocks, the throttle not being changed. On Fifth avenue a Coyne bread wagon had the street car track's right of way and the Dorris followed it at a slow walk for an entire block, the clutch being engaged but the throttle shut to one-eighth and lower.

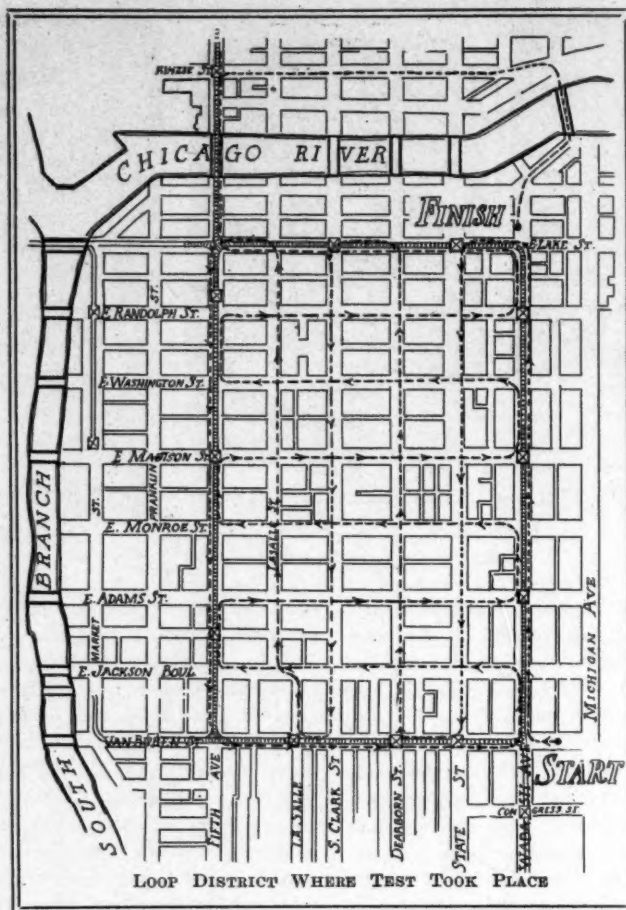
So continues the control story; blocks made at speeds varying from a slow walk to 18 miles an hour by throttle manipulation and other blocks made at similar speeds by slipping the clutch, both indicating the possibilities of motor and multiple disk clutch flexibility and the uselessness of change speed gearing for city uses.

The tale of the speeds made is best shown in the accompanying table. A few deductions, however, are in place. Ten miles per hour proved the popular speed irrespective of the fact that the average speed for the distance approximated 6. On thirty-two different occasions 10 miles were recorded. Next came 5 miles, which was recorded on twenty-six different occasions. Of the other speeds recorded, 6 miles was registered twenty-four times; a slow walk twenty-one times; 4 miles twenty-three times, and 3 miles eighteen times. On four occasions did the car reach the 20-mile limit; twice it reached 18; sixteen times was a speed of 2 miles registered. Such speeds as 11, 13, 16, 17 and 19 miles per hour were little in evidence.

In all six stops were recorded. The first occurred on LaSalle street close to the board of trade where a loss of 9 seconds was occasioned while a one-horse teamster disentangled himself from an attempted turn across the street. The Dorris stopped with the back wheel in a hole in the pavement. In starting the throttle was placed at one-third open, the spark left stationary, and without effort the car moved off. No method of estimating the motor speed was at hand, but there was no speeding; in fact, it was below normal, the driver claiming about 600 revolutions per minute. All of the remaining stops were caused by long lines of teams and street cars. Their durations were, 13, 4, 2, 28, 3 and 45 seconds respectively—not long periods considering the maze of vehicles that crowded the streets. The total period of stops, 1 minute 11 seconds, is comparatively short for an hour and a quarter trip in a busy city.

The "loop" test completed, a few other "stunts" were prepared for the car, the observers hoping to find out accurately if it was capable of meeting every possible exigency that might arise.

Three more stops—voluntary stops—were made, all with the object of testing the starting efficiency on high speed and noting if the starts on this speed were made at the expense of the engine and if dropping to a lower speed would have increased the longevity of the machine. The first was on the approach to the Fifth avenue bridge, the stop occurring in the middle of the incline. In starting the spark was slightly retarded, being at one-eighth advance, and the throttle was moved up nearly to the half. Without motor speeding the car moved up. Similar stops were made on the bottom and middle of the approach at the Rush street bridge, almost identical results being made in the starts. On Michigan avenue the car was halted beside the curb with the right rear wheel in a hollow at a rise at a crossing. The start was without effort. The final starting test was on the Twelfth street viaduct, a 5½ per cent grade with cedar block pavement. With the total load, four passengers, weighing 626 pounds and the car, weighing 2,400 pounds, making a total of 3,026 pounds, the car started very readily from a stand at the foot of the incline and after stopping at the center of the rise started again. As on the other test starts the spark



was slightly retarded and the throttle opened a little more than one-third.

The many points of street etiquette observed during the test were astonishing. Horse drivers, in front of the motor car, invariably turned to the left across the street without looking behind; women alighting from street cars in the busiest sections, alighted facing the front of the car and without looking behind to see if vehicles were approaching slowly walked ahead at a forward angle to the sidewalk. In all of such cases speed was materially slackened.

Traffic laws at the corners are very much the whims of the police officials, the rule of circling to the right of the center of intersection being violated at every corner. Educate horse drivers and pedestrians as well as motorists is the first conclusion. Teach drivers of horse vehicles to observe crossing rules and to look behind before turning abruptly to the right or left on a street; teach pedestrians to look to the right or left before alighting from street cars or making a crossing and then many of the accidents attributed to the recklessness of motor car drivers will be eliminated. Wise laws with competent enforcement would work commendable results.

## MANY CHICAGO ORPHANS SADLY DISAPPOINTED

Chicago, June 12—Six hundred orphans were given a good time today by the Chicago Automobile Club on the occasion of the second annual outing for the youngsters promoted by the local organization. But there were 400 others who were forced to stay at home through the selfishness of Chicago's automobile public. Had it not been for the support given by the local dealers, who provided cars at a time when minutes meant dollars to them, and the efforts of a mere handful of private owners, the affair would have been a frost. As a whole, Chicago is a chilly proposition when it comes to an affair of this sort, and most of the private owners hung onto their rigs as if they were made of glass and would break if taken out on the road. Today was no exception to the general rule and, in consequence, the club failed to get as many conveyances as it wanted. It had 1,000 orphans to look after and when a count was made it was found that there was not enough cars by half and that only 600 kiddies could go. Of course, this meant heart-breaking scenes at the various institutions when the cars came around for their loads. The little ones who could not go, of course, broke down and cried and there were many pitiful scenes. Attempts to pick the lucky ones by lot proved a ghastly failure, and final-

ly most of the automobilists were forced to pick up their loads and do the best they could, leaving many "Alice-sit-by-the-fires" behind them to cry their little eyes out. Now that the affair is over and the motorists know of the heart-burnings, it is suggested that the club try again and promote another day when those left behind can be taken out.

The weather was anything but favorable. The prognosticator has been in a huff these last few days, anyway, and he hadn't got over it this afternoon when the little tots were preparing for their annual outing. His brand of weather was execrable—about the kind one might expect would be a hot day in the region of the north pole. Old Sol was out and running on his magneto, but the air-cooling device was working only too well and the blasts from the north chilled to the marrow not only the children but the motoring samaritans as well, although the latter were somewhat protected by their big coats. Plenty of rugs and winter apparel, though, fooled the weather man, anyway, and the kiddies had a good time of it after all—a nice, long ride, a visit to Sans Souci and White City and all the peanuts and crack-erjack they possibly could get rid of.

It had been planned to start from in front of the Auditorium Annex at 2:30

p. m., but owing to the inaccessibility of some of the asylums this was made impossible, so Chairman Gregory told the samaritans to get their loads, then hike down the boulevard s. by s.e. until they came to White City, just off the weather bow of Washington park, where a stop was to be made. Some of the cars went to this resort first while others headed for Sans Souci, the rival attraction. At both places, though, the children were given a royal reception. At White City Thomas W. Prior, head of the publicity department, was caught unprepared. He had not anticipated the huge surprise party, but it did not feaze him in the least. He hustled outside and waved his magic wand and the kiddies had the open sesame to every attraction in the place. And maybe they didn't take advantage of this! They saw everything at White City, as well as at Sans Souci, where the same kind of warm welcome was given. If the majority of local motorists had cold feet the amusement people more than made up for this selfishness. And the kids did have a good time, and as they munched the peanuts given them by the big grocery house of Sprague, Warner & Co., and made inroads in the Rueckheim's crackerjack they appreciated the efforts of the samaritans and hoped for another chance.



## GERMAN CUP TO STOESS

### Judges Make Final Award in the Herkomer Tour—Percy Pierce Not Among the First Ten

Berlin, June 13—Special cablegram—Rudolph Stoess, driver of a 20-horsepower car, has won the second annual Herkomer tour which was completed yesterday. Emil Neumaier, in a 40-horsepower car, was second. Percy Pierce, the American, was not among the first ten; neither was Prince Henry of Prussia. The result was somewhat of a surprise to the German contingent. Pierce made a decided impression on his fellow tourists by his steady driving, but he was handicapped through being a stranger in a strange land.

Chicago, June 12—Not until tomorrow will the result of the second annual Herkomer tour, run through Austria and Germany, be known. Then American motorists are hoping the cable will flash the good news that Percy P. Pierce, the sole hope of the Yankees in this big international event, has either won the trophy put up by the celebrated painter or that he has finished within the first five.

Owing to the fact that an American was in the contest the Associated Press kept close tab on the progress of the tour. The tour started from Frankfort on June 6 and went to Munich the first day. The second day's jaunt was to Linz, the third to Vienna, where the 9th was spent in attending the exhibition there. On the 10th the tourists went over the Semmering to Klagenfurt and yesterday ran to Innsbruck. Today's trip to Munich was the last stage, but the result of the tour will not be known until tomorrow when the prizes will be distributed.

Motor Age was in receipt of a cablegram last Thursday from one of its foreign correspondents announcing that 134 started in the tour and that at the last moment a protest was entered against the Fiat drivers and many others who will be disqualified on account of not having sufficient body work on the cars to conform to the regulations. The roads were reported to be in bad condition going into Vienna because of the heavy rains.

The tour started at 5:05 a. m., June 6, and the contestants were sent away at 2-minute intervals. Prince Henry got away twentieth in his Benz car. At Nuremburg occurred the first accident, when the car belonging to Herr Kienle, one of the committeemen, hit a tree, throwing Herr Schler, of Munich, against a tree, fracturing his skull and breaking his breast bone. By 11 o'clock 120 of the contestants had reached Nuremburg for lunch. Willie Poege, of Chemnitz, who won third place last year, was the first to reach the night control at Munich, being followed by Ladenburg, last year's winner. Matnis, of Strassburg, was third; Weingard, of Dus-

seldorf, was fourth, and Hoenner, of Stuttgart, fifth. Prince Henry did the 248 miles in 9 hours 40 minutes. Pierce got in at 5 o'clock in good condition.

Rain marred the run from Linz to Vienna. The roads were heavy and every car was plastered with mud. Notwithstanding this the tourists stuck to their work and by 3 o'clock in the afternoon 116 of them had reported at Vienna. Dreher, of Austria, and Martino, of Italy, checked in at 10:55 a. m., while at 11:30 Prince Henry arrived. Mrs. Manville, the only woman in the tour, reported at noon in her Daimler. One accident was reported, a German car running over and killing a peasant near Melk. Prince Henry, after a brief rest at the hotel, went ahead to reconnoiter the next stage to Semmerling, which includes the hill climb.

Cable reports of the last day are vague and incomplete. The result of the sprints in Forstenreider park were given. W. Poege, of Chemnitz, did the 3½ miles in 3 minutes 8 seconds, which is much faster than made last year, when Poege won the class I event in 4 minutes 12¾ seconds. A year ago Mrs. Manville, the Englishwoman, did the best work—4 minutes 9¾ seconds. Today she failed to get a place in the regular trials, but in a special attempt she did 3 minutes 37 seconds.

### MEGARGEL FINISHES HIS TOUR

New York, June 9—Percy Megargel, of Rochester, with David F. Fassett, of Lansing, Mich., as his companion and a 16-horsepower Reo touring car as their mount, completed the longest continuous automobile tour on record when they arrived at Herald square at 20 minutes past 2 o'clock this afternoon. Since August 19, 1905, they had twice crossed the American continent and in their meanderings a motor had covered 11,742 miles. Their route has taken them from here to Buffalo and from there through Pennsylvania, Ohio, Indiana, Illinois, Iowa and Nebraska to Omaha, from where they proceeded to Portland through Wyoming, Idaho and Oregon. From Portland they made the journey down the Pacific coast to San Francisco. The return trip was made through California, Arizona, New Mexico and Colorado back to Omaha, from where they retraced their way over the route used going west.

### PRESIDENT SIGNS BILL

Washington, D. C., June 9—President Roosevelt has affixed his signature to the bill recently passed by congress removing the internal revenue tax from denatured alcohol used in the arts and industries and for fuel, light and power, and the same is now on the statute books. It will not become effective, however, until January 1 next. In the meantime, the commissioner of internal revenue will spend several months in Europe, at the direction of the president, in order to study the laws of various European countries relating to tax-free alcohol.

## FIRST GUN IS FIRED

### Manager Reeves of Independents Issues Statement Regarding Selden's Exhibit Car

New York, June 11—The new manager of the American Motor Car Manufacturers' Association, Alfred Reeves, is not belying his reputation as a fighter and hustler, and has begun at once to carry the war into the enemy's camp. He fires his first broadside today in the following from his press bureau anent the recent exhibition of Selden's foundation motor:

"That only a small part of the Selden car exhibited in New York recently was original in 1879; that the complainants' own expert, Mr. Bentley, could not interpret certain drawings of the patent in a manner that Mr. Selden in his testimony declared would be required to operate the engine effectively, and that there are grave doubts if an operative engine and car could have been made without instructions which are not found in the specifications, are the rather startling statements made in New York yesterday by R. A. Parker, counsel for the Ford Motor Co. in the Selden patent suit. His statement was made after consultation with Professor Carpenter, of Cornell University, and Jesse Smith, an expert mechanical engineer, and as a result of their examination of the Selden car at the Decauville garage recently.

"I am surprised that an attempt should have been made to offer this car in evidence," said Mr. Parker yesterday. "With but few of the original parts, the carriage bore a misleading plate marked 1877.

"The matter of ignition in the original engine was by a constant flame burning on the gauze in the combustion chamber. This small flame was fed by air from the air tank through a little hole made in the air inlet valve, which little hole was always open. The charge burned as it came and passed through this gauze, on which this flame was burning. In the exhibition the other day, according to Mr. Selden's sworn testimony, he used electricity to light that flame and said he might continue a constant sparking to insure flame not going out. The electrical ignition was a mere substitute for lighting this flame through the exhaust pipe after the cylinder was filled with combustible. The electrical ignition was by sparks passing between insulated terminal and the wire gauze, so that the return line of the current was through the engine body. This engine will not develop over an effective ½ horsepower on driving the car at 10 miles per hour with 20 pounds' traction.

"It is doubtful if from the patent specifications, together with what was known in the art before 1879, an operative engine and car could have been made without instructions which are not found in the specifications."

# WEIGHT LIMIT IN GLIDDEN TOUR IS REMOVED



ROAD OBSTRUCTIONS AT RANGELEY

**C**HICAGO, June 11—The return of Sidney S. Gorham from New York was marked by the announcement that the action of the American Automobile Association in wiping out altogether the weight limit on cars contesting for the Glidden trophy was taken only after a strenuous fight in committee and which ended in two of the committeemen taking matters in their own hands and throwing the 1,700 pounds into the waste basket, although the other two members refused to allow the deadlock to be broken.

It developed that the original decision of this subcommittee to place a weight limit of 2,000 pounds on the cars met with protests from all sides, Motor Age's editorial on the point at the time scoring a decided bull's-eye. The committee, which consisted of L. E. Myers, chairman; Sidney S. Gorham, of Chicago; F. B. Hower, of Buffalo, and Paul Deming, ex-officio member, hastily went over the matter again and settled on 1,700 pounds as a happy compromise. Still this was unsatisfactory and Paul Deming, who is also chairman of the touring committee of the A. A. A., felt the pulse of the country and realized that the motoring world would not stand for a weight limit. Gorham was hastily summoned to New York for a consultation over the rules. It was decided by Deming and Gorham that the weight must go, so Myers and Hower were reached by wire. But here Deming and Gorham ran into a snag. The others



BETWEEN JACKMAN AND BINGHAM, ME.

positively refused to get into the band wagon and flung their 1,700-pound banner to the breeze and stood pat, leaving the committee in a deadlock.

In the meantime A. B. Tucker, superintendent of the tour, was hollering for the rules and the prospective entrants were holding off until they knew the regulations. More telegrams were exchanged, but Myers and Hower refused to be convinced. Then Deming and Gorham took matters in their own hands and, overriding the objections of the chairman of the subcommittee, rose to the occasion and entirely eliminated the weight proposition from the document. Then the regulations went to the committee appointed by the National Association of Automobile Manufacturers and that body, which had vainly tried to evolve a set

of rules that would be agreeable to all parties concerned, looked the paper over and put on it the trade O. K. Then the rules went to the printer, Superintendent Tucker was made glad and Secretary Gorham took the train for Chicago.

Secretary Gorham also announces a slight change in the route of the Glidden tour which lengthens it from 1,025 miles to 1,143 miles. It also adds 2 days to the trip, making the Buffalo-Bretton Woods

part of the affair last from July 12 to 28 inclusive. The change comes about by staying 2 days in Quebec instead of 1, and including Waterville, Me., in the itinerary. July 22 and 23 will be spent in Quebec, and on July 24 the tourists go to Jackman, Me. Then, instead of going from Jackman to Rangeley Lakes, the road bends off so as to take in Waterville, Me., an additional 103 miles. This takes up the second added day. Going from Rangeley to Bretton Woods the last day of the tour, the committee has picked up an additional 10 miles, which brings the grand total up to 1,143 miles.

The contest for the Deming trophy will not start at Chicago, as first announced, the new rules announcing that it will be contested for from Buffalo to Bretton Woods. It is open to any motorist not a contestant for the Glidden trophy, and the winner will be the one who has the lowest penalization under the rules, repairs, replenishments, replacements and inspection in garage being permitted. Besides the Glidden and Deming trophies, there will be one for the club from whose membership the largest number of entries are received in proportion to the total active membership of the club; one to the winner of a hill-climbing contest, one to the winner of a brake test, one to the winner of an obstacle race, one to the car having the least tire trouble during the contest, and one to the car which



FIXING ROADS IN ANTICIPATION OF TOUR



shall complete the tour from Buffalo to the end of the tour under the most adverse conditions and with the greatest number of tire and mechanical troubles.

In all probability there will be a change made in the rules regarding controls. Instead of having controls each night the committee is favorably impressed with the idea of having a control each 25 miles so a better tab may be kept of the regularity of running of the cars in the contest. Repairs cannot be made in garages and observers will not have to be carried.

In charge of the contest will be the A. A. A. touring committee, which is made up of Chairman Paul H. Deming, of Detroit; Sidney S. Gorham, of Chicago; C. L. Ainsworth, of Cincinnati; George W. Beach, of Hartford, Conn.; James M. Boutwell, of Montpelier, Vt.; Otto B. Cole, of Boston; James B. Dill, of New York; George W. Erhart, of Decatur, Ill.; Ezra H. Fitch, of New York; F. C. Gates, of Cleveland, O.; George A. Gould, of Davenport, Ia.; Captain Homer W. Hedge, of New York; Frank B. Hower, of Buffalo; Frank M. Joyce, of Minneapolis; J. C. Kerrison, of Boston; Ernest J. Knabe, Jr.; Howard Martin, of Albany, N. Y.; L. E. Myers, of Chicago; August Post, of New York, and Angus Sinclair, of East Orange, N. J.

From Chicago to Buffalo the tour will be under the direction of L. E. Myers, and from Buffalo to Bretton Woods under the personal supervision of Chairman



VIEW OF QUEBEC FROM CITADEL

only touring cars with tonneaux, seating at least four persons, are eligible.

One more Chicago entry was officially filed this week, Charles Y. Knight, of the firm of Knight & Kilbourne, naming a 30-40-horsepower Silent Knight for the entire trip from Chicago to Bretton Woods.

J. H. McDuffee, of the McDuffee Automobile Co., is another Chicagoan who will go after the Glidden, his entry having been sent and accepted and No. 5 awarded him. McDuffee will drive a Stoddard-Dayton, one of the cars he represents in this city.

That Percy Pierce will defend his title to the trophy was announced today by H. Paulman, the Chicago agent for the Pierce Great Arrow, who has received word from the factory that now the Circuit European

has been abandoned there is nothing to keep Pierce in Europe, so he will hurry home to get in line with the other Gliddens at Buffalo. Paulman himself has also filed a Pierce entry and will at least go as far as Buffalo with the party and all the way if he can find the time. Paul Hoffman, from his shop, will drive the second string to the Pierce bow.

#### CHANGES IN RULES

New York, June 12—The A. A. A. touring committee as a whole refused to accept in its entirety the draft of the Glidden rules as published in outline in Motor Age of the current issue. The committee balked at the rule allowing repairs, adjustments, etc., being made in the night garage with a penalization of a point for each minute consumed by each man in making them. The rules have accordingly been amended, so that no repairs, adjustments, etc., can be made in the garage, but must be made after the car has officially started the following day. In a word, the only penalization for repairs, adjustments, etc., will, therefore, be from the loss of time in making them on the road. The result is that the contest is practically based on the maintenance of the time schedule.

S. D. Waldon, of the Packard Motor Car Co., has submitted a scheme providing for checking the contestants at three or four points en route each day, which will be, it is understood, accepted by the

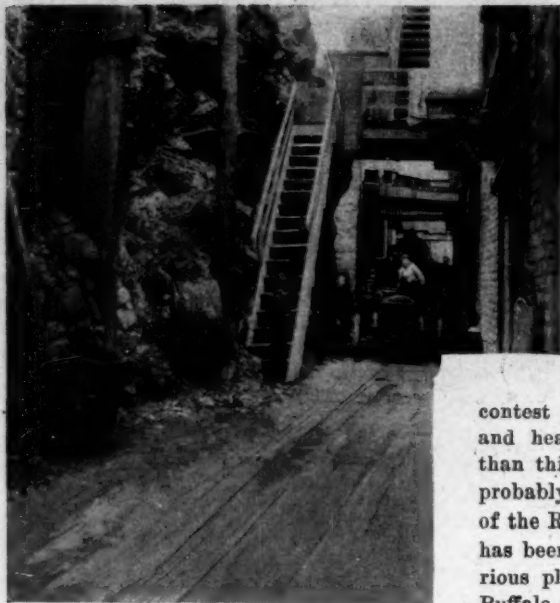


IN MOONSHINE MOUNTAIN DISTRICT

Deming and the touring committee, assisted by the executive staff, including superintendent, assistant superintendent, garage chief and a corps of department assistants. Entries close July 3 at 12 o'clock noon at the office of A. B. Tucker, superintendent, 31 West Forty-second street, New York, the fee being \$50. Any type of automobile may be entered in the first division, a pleasure trip from Chicago to Buffalo, while in the second division



OLD TAVERN KNOWN AS HALFWAY HOUSE, BETWEEN PORTLAND AND QUEBEC



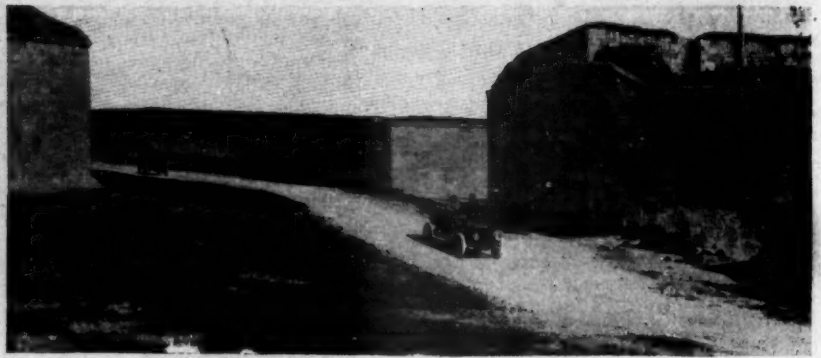
RUE SOUR LE CAP, QUEBEC

committee. This checking will inform the committee, it is believed, of any inordinate speeding to make up lost time and these fast runs will be considered by the committee in making its award. In a word, the close observance of the schedule from start to finish each day will be an important factor in arriving at the winner; for if time be lost by repairs, adjustments, etc., it will have to be made up somewhere to avoid a penalization of a point a minute at the end of the day.

At a special meeting of a subcommittee of the A. A. A. touring committee, consisting of James B. Dill, F. B. Hower and Augustus Post, held yesterday, the Glidden tour itinerary and route were finally settled. The following changes were made: July 12, Buffalo to Auburn, 123 miles; July 13, Auburn to Utica, 75.3 miles; July 14, Utica to Saratoga, 91.4, a total of 289.7 miles, as against the former route via Rochester and Syracuse of 326.5 miles. This completes the work.

#### THE GLIDDEN ROUTE

The tour will not be a scorching contest through thickly populated and colorless country. On the contrary, the rules of the



THE FAMOUS OLD CITADEL AT QUEBEC

contest place a premium on steady going and heavily penalize speeding. Further than this, the road leads through what is probably the most beautiful country east of the Rocky mountains and adequate time has been allowed for stop-overs at the various places of interest. The route from Buffalo to Saratoga is comparatively well-known to tourists, as it is practically the same as that traversed in the opposite direction by the St. Louis tourists in 1904. From Saratoga, however, through to the terminus of the tour at Bretton Woods, the route lies through what is, from the standpoint of the motorist, practically a new country.

A subcommittee, consisting of Judge James B. Dill and Augustus Post, to whom was entrusted the laying out of this portion of the tour, returned to New York last week after 2 weeks spent on the road in their White steamers. Messrs. Dill and Post report that, contrary to common opinion, the roads in Canada and in the state of Maine are in good condition and that there is no section of the road which should offer difficulties to the automobilist of today. As regards the roads to be covered in New York state, it should be noted that the subcommittee was so fortunate as to have with them all the way from Saratoga to Montreal, Frederick D. Lyons, commissioner of highways of the state of New York. Owing to the system now in vogue, wherein the state pays half the expense of road improvements, Mr. Lyons is able to exert considerable authority over

all of the local supervisors. He took careful note of all the bad places in the road and promised the subcommittee that by the time the tourists come through every mile of the road will be in good condition.

Leaving Saratoga the route leads through a rolling farming country as far as Glens Falls. Beyond this point the country becomes somewhat more rugged, the going being over a plank road to Caldwell, at the foot of Lake George. From here the road bends westward from the lake, passing through Warrensburg and Chestertown, and then follows the Schroon lake and the Schroon river. By the time the tourists reach Underwood they will find themselves in the heart of the Adirondack mountains and from that point on, until near Elizabethtown, is one of the few pieces of bad road to be met with on the entire trip. The tourists will stay over night at Elizabethtown, where there are three comfortable summer hotels, the headquarters being the Windsor.

Leaving Elizabethtown the next morning, there are a few miles more of mountainous road, when the tourists will emerge into the open and somewhat sandy country near Keeseville. Two miles beyond this town is the Au Sable chasm, which may be reached by a detour of but 100 yards from the main road. The night stop will be at Hotel Champlain. North of the Hotel Champlain the route follows closely the Richelieu river. At Rouse's Point, a mile from the Canadian border, it will be necessary to comply with a few formalities incidental to entering Canada. The laws of the province of Quebec provide for a registration fee of \$5 for each machine and a license fee of the same amount for the driver. It is possible that these fees may be refunded by government action but, in any event, all of the arrangements will have been made in advance and the tourists will not be delayed more than a few minutes. From St. John to Chambly, a distance of 8 miles, the going is unusually interesting. The road parallels closely the Chambly canal and immediately beyond is the Richelieu river. At Chambly the route leaves the river and bears to the west through St. Hubert to Longueuil, from which town the tourists will cross the St. Lawrence river, either by ferry, or over the great Victoria bridge into Montreal.

The headquarters in Montreal will be at



ROAD THROUGH PINE FOREST LEADING TO JACKMAN, ME.



the Place Viger and Windsor hotels, the former being owned by the Canadian Pacific railroad. A day has been allowed for seeing the sights of Montreal. From Montreal to Quebec is a 2-day trip along the north shore of the St. Lawrence river. This entire region is well settled with a quaint little town about every 10 miles. It is in the towns that the deep religious nature of the people becomes evident. Shrines are seen along the road at frequent intervals and barefooted friars plod along the highways in groups of two or three, receiving reverent salutations of the people.

A night stop will be made in Three Rivers, founded in 1634. The headquarters will be at Hotel DuFresne, located on the quay. Although this is a large hostelry it will probably be insufficient to accommodate the party of tourists and, accordingly, the subcommittee made arrangements with the Richelieu & Ontario Navigation Co. to have one of its boats moored alongside the quay to serve as a floating hotel for the tourists. This is a novelty which will probably prove very popular. Half-way between Three Rivers and Quebec the country, which has hitherto been practically level, assumes a more rugged aspect. Cliffs rise abruptly on either side of the river, producing an effect not unlike the Palisades on the Hudson. The last 15 miles into Quebec is over a fine macadam road which runs past the Plains of Abraham, where was fought the battle which decided that the English flag and not the French should wave over Canada. Quebec is one of the quaintest cities on this continent and 2 days have been allowed the tourists to see the sights.

From Quebec the route leads toward home, the road covered from Quebec to Rangeley being that which James B. Dill traversed in his memorable trip 2 years ago. When the tourists leave Quebec they will cross over by ferry to Levis and then proceed over the old frontier road by way of St. Henri to the Chaudiere valley. The road leads along the Chaudiere river through numerous quaint villages to the Jersey postoffice. From this point there is a climb over the divide which separates the waters flowing into the St. Lawrence river from those flowing into the Atlantic ocean. The summit of the divide forms the boundary line between the province of Quebec and the state of Maine and the tourists will cross into the United States in front of the line house, part of which is



IN THE CANADIAN FORESTS—ROAD TO THE LINE HOUSE

in one country and part in another. Fifteen miles below the border is the little town of Jackman, where a night stop will be made. There are three small hotels here and it will be necessary for some of the party to sleep in tents. This feature is to be taken care of by Ezra H. Fitch. From Jackman there is a most interesting run through the woods. White birches line the road on each side and deer probably will be seen from the cars. Beyond Parlin's pond the road passes a summer estate where the fields are surrounded by high wire fences to prevent game from eating the crops. At The Forks the road meets the Kennebec river and follows this swift-flowing stream all the way to the pleasant little city of Waterville, where a night stop will be made. The next day the tourists will retrace their route along the east bank of the Kennebec as far as the town of North Anson. Here they cross the river and proceed by a circuitous road toward Rangeley. They will pass within half a mile of the town of Flagstaff, which takes its name from the fact that when General Arnold led his expedition against Quebec, in 1775, he imagined when he came to this place that he was in Canada, and he accordingly hoisted the American flag over what he considered was conquered territory. A few miles further on is the great Mount Bigelow, with its summit lost in the clouds. This takes its name from General Bigelow, a member of General Arnold's party, who climbed to the summit to look for the city of Quebec.

Soon the road leads into the Dead river region. Here again deer are plentiful and rabbits innumerable scamper across the

road. The commodious Rangeley lake hotel will shelter the tourists for the night and they will probably spend the day allowed here fishing, salmon and trout being very abundant in the lakes and brooks in this region. The last day's run is through the woods by way of Phillips and Weld to Dixfield. From this point the route leads along the Androscoggin river as far as Gorham, in the state of New Hampshire. Then comes a 30-mile drive around Mount Washington to the terminus of the tour, at Bretton Woods, where the contest for the Glidden trophy ends and where the party will break up, and the tourists patiently wait until the committee figures out the winners of the prizes offered.

Altogether the route selected by the committee is one that will meet all requirements in the way of conditions to test out the cars. There are hills and mountains, bad roads and good roads and the long tour certainly will do much to point out to makers the weak spots in their wares. Those who do not care for the contest will be well repaid by the beautiful scenery through which the course will take them.



MAP OF ORIGINAL GLIDDEN COURSE MADE BEFORE ALTERATIONS WERE ANNOUNCED



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## WHY, PLEASE, WHY?

**I**F ANYBODY can find any reason for the existence of the numerous national and state automobile organizations that are now on the books, the reason has not been made public. Logically there is no reason, unless it is to diversify interests that ought to be concentrated in order to accomplish those things that ought to be accomplished for the good of automobiling in general. The average motorist would not attempt to burden himself with remembering the titles of the various American automobile organizations, much less keep track of their objects. He might be interested in one big organization, with defined objects in view, but so long as there are a dozen or more in the field he is apt to pass them all, not knowing which fair one to select with which to content himself. The greatest work that could be performed at this stage of the game would be to bring together all those organizations that today in any manner conflict as to their objects. It has been admitted there is uselessness in so many organizations—then why continue them as they are? Will Mr. Farson, Mr. Potter, Mr. Gorham and a few others in the limelight please tell the public why?

## NOT INTERNATIONAL

**ALTHOUGH** the world-known Bennett cup race has been placed on the shelf—mainly because France does not like to have anything run any way but its own way—the world is soon to be treated to an event that promises to eclipse that automobile classic. The grand prix, scheduled for June 26 and 27, is something of a departure in automobile racing, inasmuch as it is to extend over a period of 2 days, making almost any outcome possible. The grand prix will be the event, not only of the year but of several years to come, unless the Vanderbilt cup race shall grow to unexpected proportions. A race in this country cannot be expected to compare with an event of similar nature in France, and the reason may be stated in one word—roads. This country does not possess such roads as are to be

found in France; the federal government will not police a course as will the French government; the people will not, at this time, at least, support an event, and, further, the manufacturers of this country have not reached that acute stage of competition to compel them to go into the road racing game as do the French makers. The grand prix will bring together the cream of continental Europe; there will not be a single competitor from Great Britain or the United States. It will be a grand race, with speed only limited to the capabilities of the cars because of an ideal and well-groomed road, but it will by no means smack of the international as much as will the Vanderbilt cup race, which will have representatives from Great Britain, Germany, France, Italy and the United States.

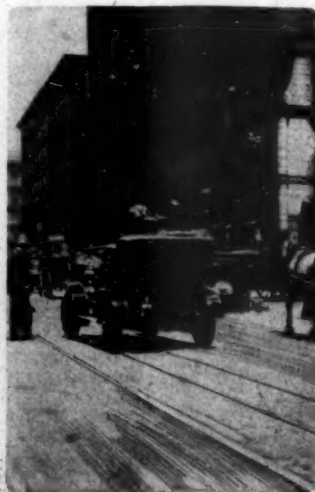
## POLICE TO BLAME

**D**EMONSTRATIONS are made almost every day that tend to prove beyond a reasonable doubt, as is said in legal parlance, that the burden is not by any means on the automobilist when an accident occurs wherein an automobile is concerned; nor is the luckless pedestrian always at fault. Under the supervision of Motor Age a demonstration was made last week in the downtown district of Chicago to show what could be done with a car without resorting to the use of the speed change gear, and, although this test was entirely successful in its purpose, it demonstrated more than the capabilities of a car—it showed the apparent lack of efficiency on the part of the average police force to grasp the meaning of proper traffic regulation in a city the size of Chicago, and it further illustrated the fact that pedestrians and users of all sorts of horse-drawn vehicles are as inconsiderate of one another's rights as automobilists are popularly sup-

posed to be. During this demonstration the use of the horn was absolutely dispensed with, and yet not a single person became alarmed at the approach of the car, whereas ordinarily the sounding of the horn has been a signal for a timid woman or an excitable man to run to the curb or dash in front of the machine. The clanging of street car bells and the sounding of automobile horns were the only noises that in any manner distracted pedestrians. It was apparent the continued use of bells has made people dependent upon the sound for protection, whereas without their use people would naturally keep a sharp lookout in crossing streets. There is hardly a city in this country that is not in sad need of traffic regulations, such as are in force in New York, Buffalo and a few other places. In a nutshell, it is the fault of the police and not the automobilist, the driver of the horse or the pedestrian when accidents occur.

## WHAT CONFIDENCE DOES

**A**MERICAN automobilists, although infected more or less with trade jealousy, are none the less interested in the one home entry to the great Herkomer tour in Germany and Austria and await tidings of the result of that test of endurance, which the tour really is. It naturally required the casting aside of all temerity for an American to enter such an event in a foreign land and among a people none too graciously inclined in a trade way; it was only a supreme confidence in his car that prompted Mr. Pierce to forward his entry and to cross the ocean and make good his implied boast that he could do as well as anybody else if he could not do better. The confidence that Mr. Pierce gained in his car came about largely through his winning the Glidden trophy in this country last year, a confidence justly earned when his performance is considered and it is recalled that he had as competitors the cream of American and European automobiles and crack drivers galore. If Mr. Pierce shall have repeated his American effort in the Herkomer tour, his greatest home rival will be as proud of his work as he will be himself, and his trade rival will immediately set about to take hint and later go and do likewise, if possible. If possible—anything is possible to your American. If he happens to be a maker who is not turning out an automobile that will do the work, he is not the kind to sit down and wonder why—he will go ahead, find out why and in time will turn things around until he can accomplish what he wishes.







Senator Morgan's orphan-day scheme seems to be spreading to some extent, but not to the extent it should spread.

Maybe it is only an advertising move on the part of the A. A. A. to have a club leave its ranks now and then—then, again, maybe it isn't.

Never mind, Megargel reached New York, even if he was 5 months behind the scheduled time of arrival. One thing can be said in his favor, however—he stuck to it through thick and thin—thick mud and thin water.

When Chairman Thompson returns from taking in the grand prix he will probably bring something up his sleeve in the way of conducting road races. Remembering the last Vanderbilt cup race, however, he will not need a very large sleeve.



NEW YORK'S ORPHANS' DAY

Walter Wellman has motor cycles, motor sleighs and air ships with motors for his north pole expedition, but where does the motor boat come in?

It wouldn't do for a sailor to drive an automobile about Chicago's streets since the authorities have put up fireball signals to keep to the right and slow down—he might become confused and think them range or pierhead lights and steer his craft into a curbstone.

If the first five to finish in the grand prix are to be among the contestants in the Vanderbilt cup race, will somebody please tell what American car will win the race? Well, it will be a big win if it is won by an American, and it will take a long time to get over shouting.

## The Week

Weight limit is removed from Glidden tour cars over objections of two members of subcommittee; few changes made in route.

Percy Megargel arrives in New York Saturday, completing his double transcontinental tour, having driven Reo 11,742 miles.

Al Reeves fires first gun as new manager of Independents, issuing statement regarding Selden exhibit car.

Orphans' day in Chicago received scant support from car owners; little ones given good time.

Motor Age conducts a direct drive test with Dorris car through loop district of Chicago.

President Roosevelt signs free alcohol bill, which becomes effective January 1.

Rudolph Stoess wins Herkomer tour in Germany; Pierce not in first ten.

Final preparations for grand prix made; road oiled and tribunes erected.

No, gentle reader, the oil trust has not gone broke since the president signed the free alcohol bill.

Whatever may be said of the merits or demerits of the six-cylinder car, the fact remains that the disease seems to be contagious.

Naturally, people thought it all a huge joke about Prince Henry going in the Herkomer tour and driving his own car. Evidently somebody suggested to his highness that he—somebody—was from Missouri.

Perhaps Mr. Glidden will be able to tell what he meant when he donated the tour cup and wrote the deed of gift—nobody else seems to know, or, if they do, they don't care to give the correct interpretation of it.



## Coming Events

June 13-14—Provincial cup touring car competition, France.

June 17-24—Week of Marseilles, France.

June 18-25—New York Motor Club's second annual economy test.

June 26-27—Grand prix race, Sarthe course, Automobile Club of France.

July 14-17—Automobile reanig at Ostend, Belgium.

July 23—Start of Glidden tour from Buffalo, N. Y.

August 5-8—Touring car competition, France.

August—Circuit des Ardennes race, Belgium.

August 27-September 2—Brescia, Sicily, events. Automobile Club of Italy.

September 1-10—Auvergne cup competition, France.

September 2—Florio cup race, Brescia, Sicily. Automobile Club of Italy.

September 18—Touring car competition of Provence, France.

September 27—Tourist trophy race, Isle of Man. A. C. of G. B. & I.

September 23—Semmerling hill climbing competition, Austria.



CHICAGO'S ORPHANS' DAY

If Lancia made as much out of the coup d'Or as They did out of the Bennett cup race, maybe the Italian will also retire and give somebody else a chance.

President Roosevelt is said to be opposed to the automobile, so it is safe to presume he did not sign the free alcohol bill simply to benefit automobilists. It is dollars to doughnuts, however, that he will be one of 'em when he becomes an ordinary citizen again.

That little rumpus in the American Automobile Association over the weight limit in the Glidden tour may result in some good after all. Anyway, Motor Age didn't know the animals could be prodded into such a hubbub when it started the ball rolling.

## BIG TEST FOR TRUCKS

### French Commercial Vehicles Are Billed for Tough Stunt in Long Tour with Heavy Loads

Paris, June 2—France is about to begin its first big 1906 test of commercial vehicles, the contest being conducted under the auspices of the Automobile Club of the North of France and the immediate inspection of Gaston Doumergue, minister of commerce. The start will be made June 6 and last continuously until June 17, the nature of it being a tour with heavy loads from Paris to Roubaix-Tour-

way of Versailles and Fragny, 30 miles; second day, Pontoise to Beauvais by way of Ennery and Saint-Quentin, 31 miles; third day, Beauvais to Amiens through Oroer and Breteuil, 38 miles; fourth day, Amiens to Arras by way of Beauval and Pommerehne, 48 miles; fifth day, Arras to Tourecoing through Raches and Croix, 45 miles, and sixth day, a circuitous route out and back from Tourecoing, passing through Tournai and Lannoy, 43 miles. On board each vehicle will be an official observer to note the time of leaving each control and hour of arrival, also repairs made, and such points about the machines as brake efficiency, ease of steering, ease of motor control, efficiency of change speed mechan-

THE GRAND PRIX—ERECTING GRAND STANDS AT THE FINISHING POINT



going, in the north of the country, where the annual exposition of textile fabrics is being held. The distance traversed totals 228 miles, which is divided off into easy stages of approximately 40 miles per day, a distance not overlong but of sufficient length to test the capacity of wagons carrying loads of several tons. Of the twenty-nine contestants that will start from Paris, six motor tricycles with a carrying compartment in front capable of accommodating 110 pounds of merchandise. These six comprise the first division of the freight classification. In the second class are light wagons for loads varying from 450 to 1,100 pounds; the third class has 1,100 and 2,200 pounds as its load limits; the fourth is limited by the extremes of 2,200 and 4,400 pounds; in the fifth the limits are 4,400 and 7,500 pounds; and in the sixth class are trucks capable of carrying any load exceeding 7,500 pounds, there being included in this class trucks with trailers and motor trains. Besides these six divisions of freight-carrying vehicles there are two divisions for omnibuses, one class for buses carrying twelve to twenty-four passengers with accommodation for 50 pounds of baggage for each, the other class for thirty passengers and similar baggage space. The route followed was as follows: First day, Paris to Pontoise by

isms and, in short, every possible point that has a bearing on the general efficiency of the machines. An official representative of the minister of commerce will accompany the contestants and the minister himself will visit them.

### DRAINING IS MAIN ISSUE

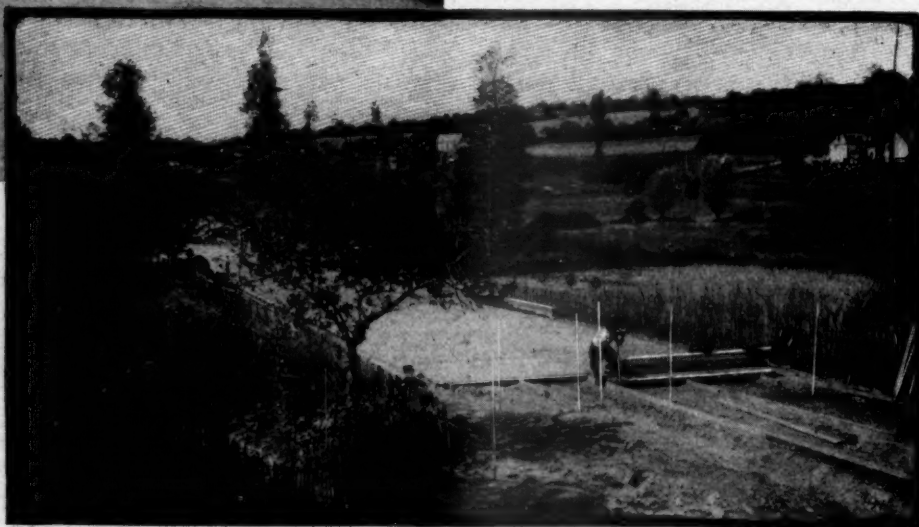
Holland, Mich., June 11—The good roads roundup was an unqualified success, about 300 farmers and rural mail carriers being assembled. The principal address was delivered by Horatio S. Earle, state highway commissioner. The roundup was due principally to the efforts of the rural mail carriers of Ottawa county, who have coöperated with the automobilists for better highways in the state.

## GOSSIP OF GRAND PRIX

### Light Tires Will Be Used in French Race—Average Wheel Base 9 Feet—Hotchkiss Heaviest

Paris, May 29—Lots were drawn today for the order of starting the grand prix, with the result that the cars will leave in the following order: Dietrich, Fiat, Renault, Darracq, Brasier, Mercedes, Gobron, Itala, Gregoire, Panhard, Vulpes, Hotchkiss and Clement. The majority of the starters have three cars each and there will be three series of starts in the above order. The cars leaving every 90 seconds, all will be off before 6:50 a. m., the start being at 6 a. m. The fastest car will be about in sight after its first round, before the last car is out of hearing. The driver of the third Brasier will be Pierry, an assumed name. The owner was at one time a champion French cyclist. It was to have been Lebrun, but owing to his recent accident which destroyed three of his fingers, he will no longer be seen at the wheel of a racing automobile.

The general lines of the cars engaged for the grand prix are gradually becoming known. Rumors are published from



THE GRAND PRIX—COVERING A BAD STRETCH OF ROADWAY WITH PLANKS

time to time, although often incorrect. At the present time no details can be given regarding the makes of tires which will be used by the several cars, contracts not having been concluded in all cases. As a rule, however, a light make of tire is being pushed for this race, that is, the fabric is thinly woven, although the number of thicknesses is, if anything, increased. Resistance is giving way to endurance here, the distance and speed having much to do with the choice. All the cars have pressed steel frames, except the Gobron Brillie, which has a steel tubular frame. The Darracq and Hotchkiss cars have metallic wheels and the remainder have wooden wheels with steel or artillery hubs. Wheels show a tendency



to larger diameters this year. The majority of the cars have 34-inch wheels, slightly more for the rear wheels and slightly less for the front. Thickness of tires averages  $3\frac{1}{2}$  inches for front to  $4\frac{1}{4}$  inches for rear wheels. The smallest wheelbase, the Hotchkiss, is 8 feet 6 inches and the largest, the Brillie, 9 feet 6 inches. The average is about 9 feet. Six makers support cone clutches; six have plate clutches. One or two have spiral spring clutches, notably the Mercedes.

Chain transmission is about equally divided with cardan. The average horsepower of the motors is 120 and over, the highest being the Fiat, with 135, and the lowest the Gregoire with 70 horsepower. All but two makers employ centrifugal pumps for water circulation. Bees' nest and winged radiators are equally represented.

The Clement cars will be of the four-cylinder type. The six-cylinder cars which this firm was to have raced are but in a testing stage and cannot be ready in time for the race.

From recent tests made the Brasier cars are believed to be capable of doing a mile in under 38 seconds, giving a speed of nearly 98 miles per hour. The Darracq,

## J. BULL PUTS ONE OVER

### Frome Hill Climb Victory For British-Built Cars—English Feel Trifle Cock-a-Hoop

London, June 2—The first sporting event of the season's program was held last week, when over fifty cars competed at the Frome hill climb, held under the auspices of the Herefordshire Automobile Club. Almost every make on the British market, with the exception of the Panhard, Mors, Mercedes, Richard Brasier and a few others, was represented. The formula for the hill climb was:

Metallurgique, Germain, Rochet-Schneider, Pilain, Vulpes, Minerva, Pipe, Peugeot, Martini and Westinghouse were the foreign cars in, the British trade is a trifle cock-a-hoop in the matter, especially as the winning Talbot made much better time than a number of the bigger-powered foreign cars. It is, however, fair to point out that driving and judgment in gear-changing had as much to do with this as the merits of the cars.

### AFTER BIGGER DISCOUNT

New York, June 11—A movement is on foot in the New York Automobile Trade Association toward securing from manufacturers an increase of the 20 per cent

THE GRAND PRIX—WORKMEN REPAIRING, LEVELING AND OILING THE ROADBED



THE GRAND PRIX—IMPROVISED HOTEL ERECTED ON THE COURSE

Fiat, Itala and Dietrich cars are supposed to be powered for 10 miles an hour faster than this; the Panhard and Bayard slightly less. These figures, however, are all subservient to the average over the 750 miles of circuit to be covered at the best average speed in order to gain the victory. Most of the cars are close to the limit of weight—2,200 pounds. The heaviest is the Hotchkiss, with 2,210 pounds, and the lightest is the Gregorie, with 1,580 pounds, and then the Darracq with 1,800 pounds. Radiators in this race are receiving great attention from all the competitors, many of whom think the race turns on an ample cooling device. All preparations are now complete and France awaits the race.

Time in seconds  $\times$  horsepower  $\div$  total weight in pounds, the lowest deduction to be the winner.

The horsepower of each car was ascertained as follows:

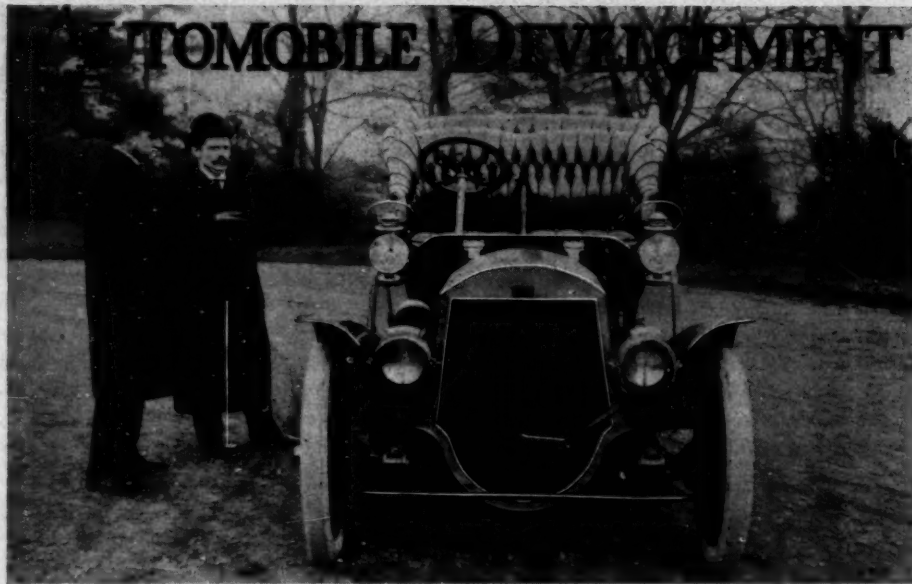
Cylinder diameter in inches  $\times$  number of cylinders  $\div$  3.

The result was a triumph for purely British-built cars, in that the 12-16-horsepower Talbot, a four-cylinder design with bore of  $3\frac{3}{4}$  inches, was bracketed first with a 10-horsepower Alldays, a two-cylinder design with a bore of  $3\frac{3}{4}$  inches. Another Alldays was second, a 20-24-horsepower Talbot third, and a 10-12-horsepower Talbot fourth. This latter was a two-cylinder design with a bore of 4 inches. As Darracqs, de Dions, Clements, Vinots,

discount now allowed agents, and a general meeting of the association will be called within a few days with a view of having the matter discussed. The argument is that New York dealers are subjected to far heavier expenses from enormous Broadway rents and the necessity of extensive advertising than agents elsewhere in the country, and besides have to meet much larger and more strenuous competition. It is pointed out that the number of agencies in competition and the rentals to be paid have nearly doubled within the past year, and it is further urged that makers should give more backing to those engaged in the most important battlefield in the country, so far as prestige and general publicity go.

### A. L. A. M. HOLDS MEETINGS

New York, June 9—A 3-day session of the various branches of the Association of Licensed Automobile Manufacturers was concluded Friday night, when the mechanical branch adjourned at Hartford. Wednesday and Thursday the executive committee and board of managers were in session at the New York offices for the semi-annual meeting. The show committee announced a plan for the exhibition of 1907 in Madison Square garden and it was more extensive in scope and more elaborate than was the plan for the last show.



FRONT VIEW OF THE FRAYER-MILLER SIX-CYLINDER CAR

**20** F THE many methods of cooling cylinders in fast-running gasoline motors that adopted by the Oscar Lear Automobile Co., Columbus, O., in its Frayer-Miller cars, stands unique. While the many American devotees of air-cooling were trying this and that kind of air-cooling pins and flanges with which to cover the outside of the cylinder walls and while they were experimenting with this and the other peculiar size and design of fan for forcing air against the cylinder walls, Oscar Lear trained his thoughts along an entirely different line. First of all, to be conventional, he decided that as makers of water-cooled cylinders used water-jackets to direct the water and keep it close to the sides of the heated portions of the cylinder walls, he reasoned that air-jackets could be placed around the cylinders to cause the cool air to pass close to the walls. In the next step water pipes and a pump were required by the water-coolers to send the water to the jackets. Lear decided on using a fan and air pipes to direct the air into the airjackets. Water-coolers try to get the cool water to the hottest part of the cylinder first and so in this peculiar form of air-cooling the cool air is directed first of all to the valve cages and tops of the cylinders, undoubtedly the hottest part of each cylinder casting. Not content with this forcible imitation of water-cooling, with air as a substitute, the inventor of this machine went still further and adopted the pin-cooling scheme, covering the top portion of each cylinder with pins and the valve port with flanges. Into the realm of the unknown forged the inventor and struck a note all of his own in the placing of cooling pins on the inside of the piston head, hoping thereby to conduct off some of the piston and cylinder heat by way of the crankcase.

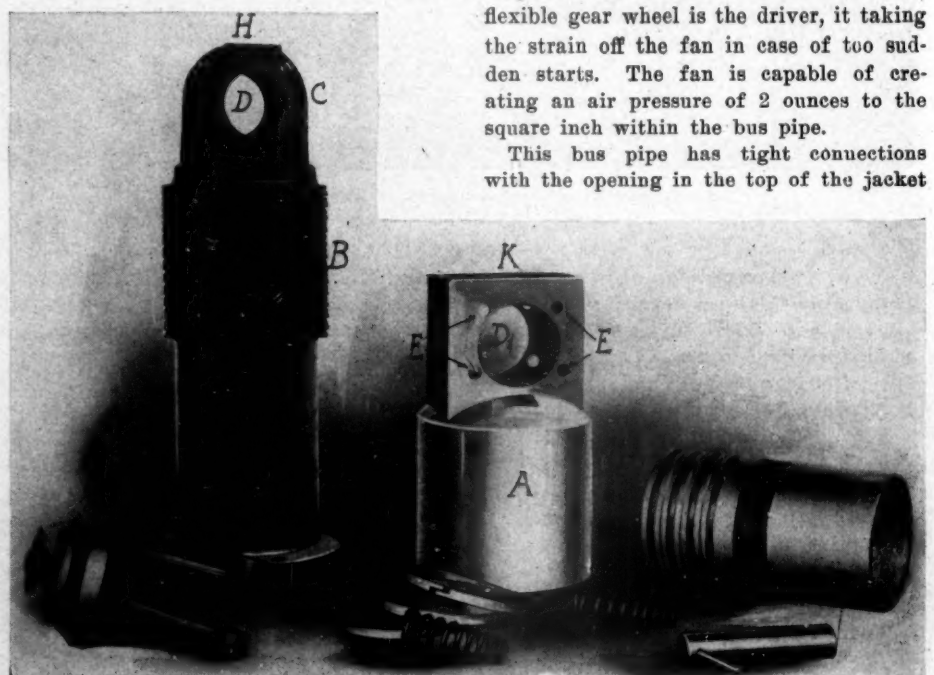
The dissembled view of the cylinder

and its parts show to advantage this comprehensive cooling scheme. Each cylinder is a gray iron casting formed in one piece, but distinguished by a bottom portion F, with a wall thickness of 9-32-inch and having a plain exterior with a circular base flange for bolting the casting to the top of the crankcase. A part B above this is covered with integral cooling pins, each  $\frac{1}{8}$ -inch in diameter at the base and of  $\frac{1}{4}$ -inch radial length. There are, in all, thirty-two rows of these pins, vertical rows, with thirteen and twelve pins in alternate rows; and a top part C central valve with an opening D, in one side of which is secured the cage to carry the exhaust valve and in the opposite side a similar cage for the inlet valve. This part C is cooled by three heavy flanges and on the head of the portion B is a

forest of cooling pins. At A is the aluminum air-jacket, which is made to fit snugly over the top of the cylinder, covering the parts C and B. The top portion of the jacket is suitably narrowed to fit the port portion C of the cylinder. In it are the openings D1 to correspond with the inlet and exhaust valve ports. By a series of four bolts entering the holes E the jacket is securely held to the cylinder. The jacket is a perfect fit, being carefully ground on the inside, so as to exactly slip over the ends of the many cooling pins on the cylinder. To make the fit accurate the ends of the pins are ground so as to form a circle concentric with the interior of the cylinder. There is thus a  $\frac{1}{4}$ -inch air space surrounding each cylinder. In the top of the port C is a hole at H for receiving the spark plug; in the top of the jacket is a large opening K, through which the intruding air enters. It first strikes the sides of the port C, the valve cages and then the heated portion of the cylinder head. Lastly, after the air passes between the many cooling pins, it goes out through the opening between the bottom of the jacket and the side of the cylinder.

Having obtained the cooling agents for each cylinder, the work of getting the air current into each jacket arose. The side view of the motor answers this query. Over the heads of the six cylinders passes a large aluminum air tube or bus pipe of square section and made large in front and gradually decreasing to the rear where it terminates above the last cylinder. The front end of this bus pipe connects through a short curved pipe with a large drum-like casing, in which is carried a blower, or, more generally designated, a fan. This fan is driven off the front end of the motor shaft and runs at a speed four times that of the motor. A flexible gear wheel is the driver, it taking the strain off the fan in case of too sudden starts. The fan is capable of creating an air pressure of 2 ounces to the square inch within the bus pipe.

This bus pipe has tight connections with the opening in the top of the jacket



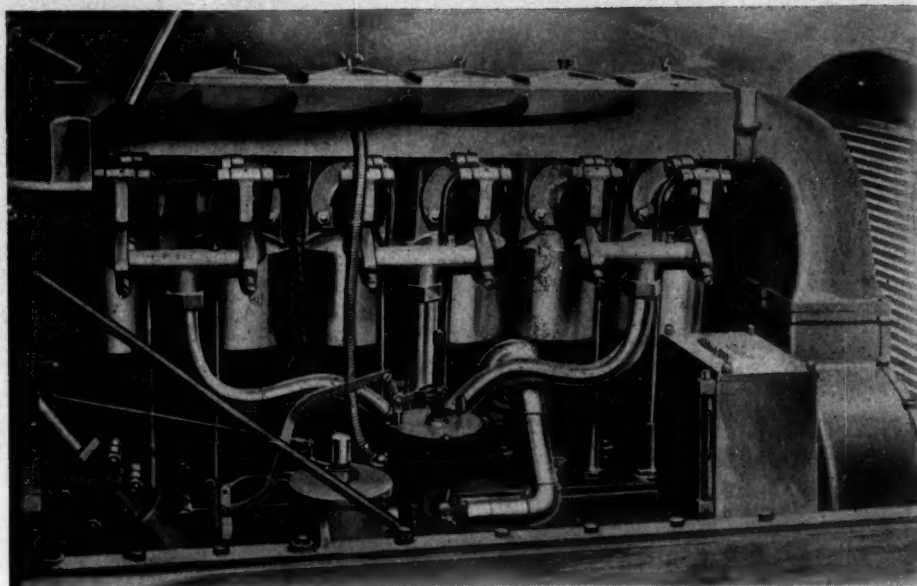
FRAYER-MILLER CYLINDER, AIR SHAFT, PISTON AND OTHER PARTS



to each cylinder and these openings are so proportioned as to give an even air supply to each jacket. In the top of the bus pipe, above each jacket is an oblong plate, covering an opening through which the spark plug is reached. The fan for creating the draught has an outside diameter of 10 inches. The vanes have a  $\frac{3}{4}$ -inch radial width, are closely placed together and are radial for about half their length, when they are given an angle of 30 degrees towards the direction of revolution. Besides the cooling features the light weight of the cylinder casting stands prominently. Each casting has a weight of 15 pounds 2 ounces and with its valve cages, jackets and other parts tips the scales at 27 pounds.

In the motor problems, other than those of cooling, most of the recognized features are used. The metal in all parts shows careful preparation, care having been taken to fortify it against strains arising from excessive heat or other causes. The pistons are annealed, turned, then ground and made a close fit; the piston pins, made of hollow steel, case hardened, are ground, work in bronze boxes and are secured to the pistons. Connecting rods are of standard design and the crankshaft, the important feature of a six-cylinder machine, is made strong and given ample bearing surface. It is a steel forging, with the crank throws mounted at 120 degrees. The end throws are in the same plane, as are the two center throws. The latter are at 120 degrees to the ends, and the throws for the second and fifth cylinders are in the same plane, and at 120 degrees to the others. The firing is in the following order: 1, 3, 5, 2, 4, 6. The shaft has four bearings, all carried in nickel bronze grids with a filling of babbitt. The crankcase is an aluminum casting, without the usual arms for carrying it on the frame pieces, but having rather webbed supports, extending from the side of the case to the frame pieces. The cylinder bore and stroke are 4 1-16 and 5  $\frac{1}{8}$  inches respectively.

Feeding each of the six cylinders with

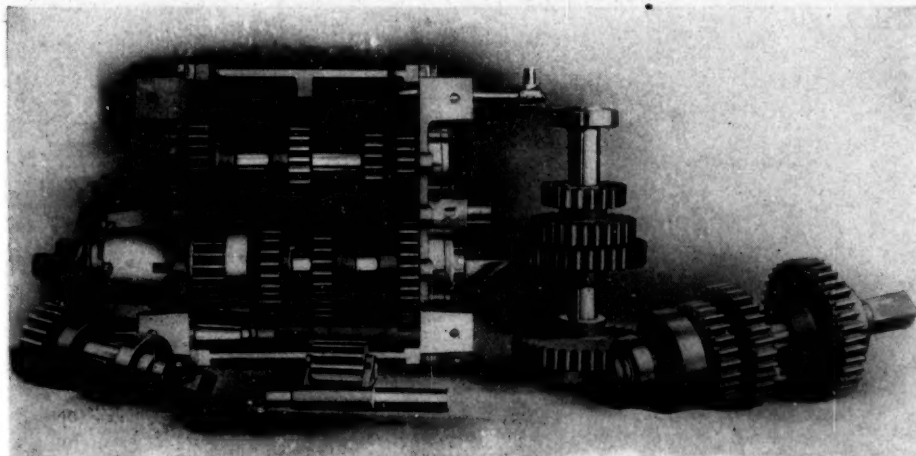


INTAKE SIDE OF FRAYER-MILLER SIX-CYLINDER MOTOR

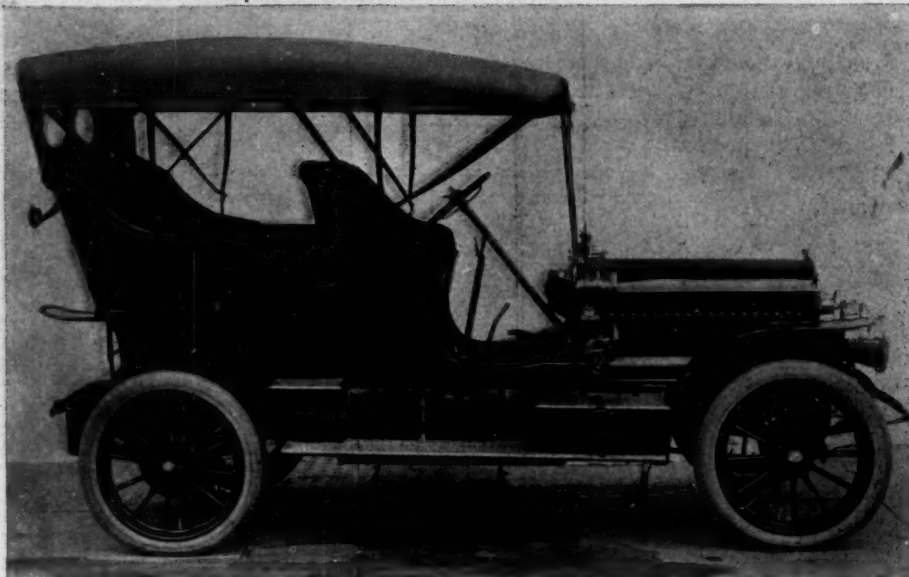
a competent explosive mixture is one of the problems that six-cylinder makers are still working with. The illustration shows a simple scheme of piping with three pipes leaving the carbureter. The end ones are slightly curved, given an open S shape, whereas the one to the two center cylinders is straight. Each of these pipes unites with a U-shaped coupling with its respective valve cages, stirrups with adjusting screw serving to hold them in position. On several of the cars now in use this scheme has been abandoned for one in which a by pass pipe is used. A long, straight horizontal pipe of large diameter lies close to the sides of the cylinders and has a short, upward connection with each valve cage. The carbureter has two pipes connecting with this large pipe, one between the second and third cylinders and the other between the fourth and fifth. This bypassing scheme is intended to prevent the great opposition of the gases when entering different cylinders. It is known in a six-cylinder machine that there are three explosions each revolution, consequently there must be three suctions each revolution. Each suction

generally continues during a half revolution of the crankshaft, so there are two cylinders practically drawing upon the carbureter all of the time. This means the flow of gas is often in opposite directions, as, when one cylinder at the forward end and another at the rear, are inspiring at the same time. The double tubing or bypassing avoids contrary mixture currents at such times. The bypass pipe from the carbureter to the main pipe is of medium size. Mixture is supplied by a Frayer-Miller carbureter in which air pressure is used to regulate the speed. The carbureter has a separate float chamber at the left, seen in the side view of the motor. To the right of this is a small mixing chamber, joined at the side by a large pipe, conducting hot air from between the cylinders. At the rear side of the mixing chamber is a spring-controlled auxiliary air valve. Above the mixing chamber is a large circular chamber controlling the throttle. Rising vertically from the center of this chamber is the throttle stem, surrounded by a coil spring. Attached to the stem are the connections to the steering column. Leading from the side of the air bus-pipe, above the cylinders, is an air tube, connecting beneath the diaphragm on the throttle valve stem. As the speed of the motor increases the pressure in the bus pipe is raised because of the faster speed of the blower. This increased pressure, conducted through the flexible tube, raises the diaphragm, partly closing the throttle.

Ignition is by jump spark, with current from storage cells, dynamo, or magneto, as ordered. The commutator is carried on the right between the fourth and fifth cylinders, being driven off the camshaft. The valve actuation is the same as heretofore, being through lift rods, operated from camshafts. The ends of the lift rods are pivoted to one end of a bell crank carried on the valve casing. The other



FRAYER-MILLER GEARSET ASSEMBLED AND DISASSEMBLED



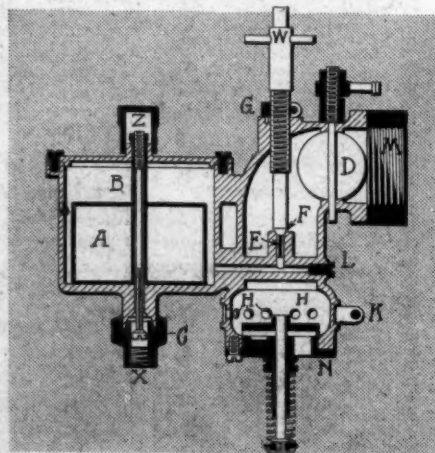
SIDE VIEW OF THE FRAYER-MILLER SIX-CYLINDER CAR

end of the bell crank bears upon the outer end of the horizontal valve stems. Inlet and exhaust valves are made interchangeable. A force feed lubricator delivers oil to the bearings of the crankshaft, and also to the transmission case. A peculiarity is that separate oil leads are not sent to the cylinder walls, the splash within the crankcase being accounted sufficient for this purpose. On the crankthrows are ring oilers, which are filled with the splash, and deliver their supply to the bottom bearings of the connecting rods.

The transmission scheme adopted in this car is that of a friction clutch and selective change speed gear, affording four forward speeds, and one for reversing, the drive being direct on the third speed. Final transmission to the back axle is by cardan shaft. The transmission, a disassembled view of which is given, is designed on the two-shaft principle, both shafts in the same horizontal plane and having a sliding member on each shaft. For direct drive an internal gear is slid forward, meshing with the master gear on the end of the shaft from the clutch. The other speeds are through gears carrying the power to the secondary shaft and then returning it. One lever working in a three-slot quadrant gives the several speeds. All bearings within the case are of the Hess-Bright type, the gears revolve in oil and for inspection purposes the entire top of the case is removable. The shafts are made with double keys for anchoring the sliding gears.

In the running gear pressed steel constitutes the frame pieces, the front axle is an I-section drop, weldless, forging; springs behind are of the semi-elliptic type and in front are of the compound semi-elliptic style. There are the usual semi-elliptic, but instead of shackling the back end to the frame piece it is shackled to the forward end of a quarter-elliptic. The back end of this quarter-elliptic is

clamped to the under side of the frame piece. By this combination the forward frame suspension extends well to the rear of the motor, almost to the center of the footboard. Hess-Bright bearings are used throughout in the back axle and in the road wheels. An extra bearing is used in the differential casing in the rear of the pinion on the cardan shaft, this pinion thus being protected against side thrust by two bearings. Steering is by the worm and segment type, the worm having a quadruple thread with one-quarter pitch. Both the worm and the segment are of mild steel, hardened. They are carried on bronze bearings, which may be adjusted. The gear housing is bolted to the sub-frame of the car. Special features are 120-inch wheelbase; tread of 56 inches; tires, regularly 34 by 4 inches; weight, 2,500 pounds, and finish in standard colors. The body lines are conspicuous, the first to attract being the peculiar screen effect covering the front of the blower. This screen is arched downwardly, corresponding almost with the arch of the axle, and the starting crank on the end of the fan-shaft protrudes through the casing one-third from the bottom. Besides this distinguishing mark, there are the special



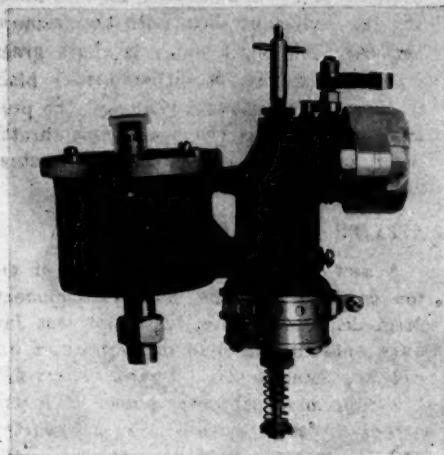
SECTION SUPREMUS CARBURETER

fenders, made with leather flaps, connecting the insides of them with the frame of the car. Standard finish is dark green, with upholstering in either red or black leather. As in vogue a year ago, the practice of mounting the spark and throttle levers on vertical semicircles on the steering wheel remains.

### KITTO'S SPECIALTIES

A new firm in the manufacture of motor car parts is the Motor Components Mfg. Co., Des Moines, Ia., which last January entered the field of carburetor and radiator manufacture. In the former field the Supremus carburetor possesses several patented features that are noteworthy. The illustration of the exterior shows this carburetor to be of the separate float chamber type, the float portion being at the left and contained in one part of the unit brass housing that serves for a float and also for a mixing chamber. In the same illustration at the top of the mixing chamber is shown the top of the needle valve, conspicuous by the cross in the head. Immediately to the right of it is the handle for the attachment of the control lever from the steering wheel. At the base of the mixing chamber is shown the spring-controlled auxiliary air valve and immediately above it is a series of small openings constituting the regular air inlet. By referring to the sectional illustration, a few important points appear. The float A is of spun brass and fits loosely around the vertical float stem, the latter carrying at the base the enlargement C, serving as a valve for regulating the entrance of gasoline, which enters by way of the opening X. Above the float is a sleeve B, which threads onto the top portion of the float stem and has its lower end to stop the rise of the float in the chamber. By raising or lowering the sleeve the float level is varied, as is the level of gasoline in the spraying nozzle. The cap Z covers the top of the float stem and is removed when priming the carburetor. In the spraying nozzle the two features are: First, the lower end of the needle valve W is grooved vertically at E into eight grooves, so the escaping gasoline is divided into eight portions and the valve stem at the top of these grooves is coned at F. This causes the gasoline to hit upon this cone surface, giving it a further division into very small particles of liquid before it even mixes with the rushing air. By means of the screw L the passage from the float chamber to the nozzle can be cleaned. Regarding the air inlets, the maker advances claims along the line that the regular air entering through the series of holes H, which can be adjusted by slipping the band H and setting the lock screw K so any opening can be achieved, passes into the carburetor in the same direction as the air entering by way of the auxiliary air valve N in the bottom of the case, so that with air entering by the holes H and





KITTO'S FLOAT FEED CARBURETER

the valve N the currents go in the same direction, neither opposing the other, passing the nozzle as one current. The series of holes H are set to carry the motor with load on its low speed. Should this speed be 250 crankshaft revolutions per minute, the holes H will be partly closed. For speeds from 500 revolutions per minute up the auxiliary valve N comes into use. The spring holding this valve closed can be adjusted in the usual manner. The valve itself is of the flat seating type, having a leather facing for resting on the seat, its action being much quieter in this way. The throttle D for controlling the passage of mixture to the cylinders is of the simple butterfly type, with handle for altering it adjustable to close tightly or remain partly open with the finger lever on the steering wheel in the closed position. The adjustable nature of the carbureter is further exemplified by attaching the end of a universal coupling to the top of the nozzle valve stem W, and continuing the shaft through the dash of the car where it ends in a finger wheel, so that from the seat the driver can vary the adjustment of the nozzle at will. The locknut for this valve is marked G.

The other product marketed and manufactured by this concern is its Arctic radiator, made in four sizes, as follows: 22 by 22 inches, 24 by 24 inches, 24 by 26 and 26 by 26 inches. The Arctic radiator is a copper product from top to bottom and has a combined water tank. It is of the tubular variety, having  $\frac{1}{8}$ -inch seamless copper tubes placed horizontally and extending from front to rear, facing the wind, thus allowing of almost unrestricted air circulation. Five hundred and fifty of these tubes are used. Attention is called to the method of fastening these tubes into the front and rear walls of the radiator, solder not being essential, though used as a precaution. The front and rear copper pieces are drilled, not stamped, and the ends of the tubes are beaded and then forced under heavy pressure into the front and rear wall pieces. After this solder is used. Radiators have been used without any solder having been added, a tribute to the method of beading the tube

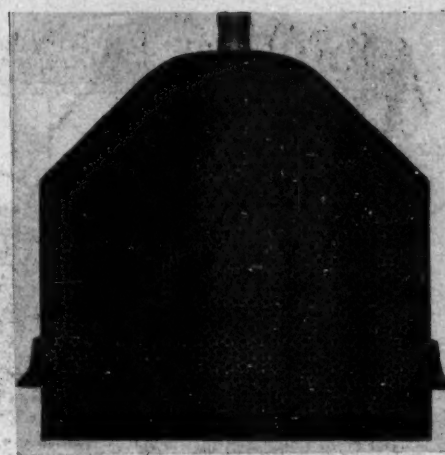
ends and forcing them into position. To further increase the radiating surface a star piece of metal is forced into the opening in each tube. The area of both sides of each star piece is 32 square inches, so that the 550 pieces mean an addition of 16,600 square inches to the regular radiating surface, making the total surface exposed to the air 24,500 square inches, not taking into consideration the ends, tops and sides of the water parts. The course of the water among the many pipes is controlled by a series of horizontal baffle plates extending from side to side of the radiator. There is a plate separating every four rows of pipes so the water entering the top of the radiator from the motor travels to the left among the four top rows of tubes, then returns to the right between the second four and continues this back and forward course until the bottom is reached, where the connection with the water pump and to the cylinders is made.

### NATTY NORTHERN

The Northern Mfg. Co., Detroit, Mich., has added to its line a runabout of most pleasing design. The chassis used is the 20-horsepower, two-cylinder type, so long built by this concern and in which the cylinders are placed crosswise in front under the bonnet. The gearcase is made a unit with the crankcase. The characteristic feature of the runabout is the use of basketwork at the sides of the seat and at the sides of the rear compartment, as well as the use of brass railings around the top of the carrying compartment. The wheelbase is 100 inches.

### MOTOR CAR LITERATURE

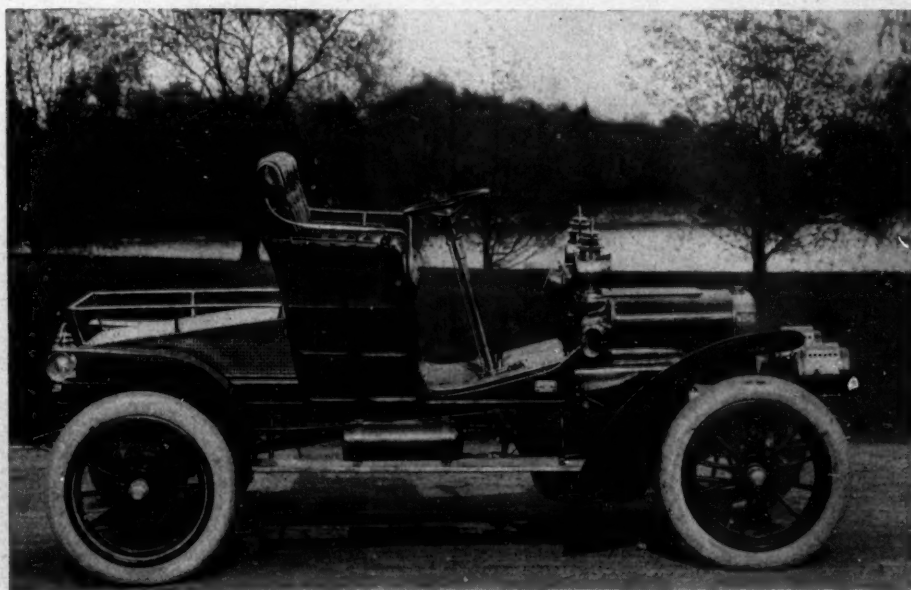
The first number of the Pittsburg Automobile Club's road book, "Runs and Tours," has just been issued. It was compiled by a committee consisting of Paul C. Wolff, Reade Bailey and Thomas R. Hartley, and gives routes, distances and



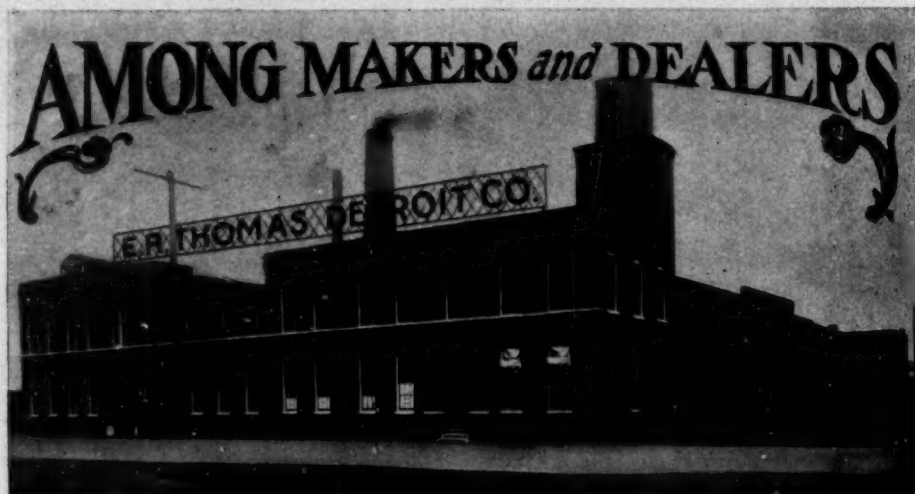
KITTO'S ARCTIC RADIATOR

conditions of roads on fifty-seven trips, including long tours through all the principal cities as well as many short trips about Pittsburg. Maps of the principal cities are shown and the automobile laws of a number of states are given. The road book is issued to members of the Pittsburg club and is being sold at \$1 a copy. More routes and information will be added in the compilation of the book from year to year, the club hoping in a short time to have a valuable compilation.

During the last two seasons the Cadillac Motor Car Co., Detroit, Mich., has pursued the plan of devoting one catalogue to each type of car. The latest issued this year devotes its pages to the four-cylinder cars, model H being the car described. Sectional illustrations are used, there being one of the steering gear with the casing broken away, another of the back hub showing brake attachment, one of the governor and timer, one of the entire back axle and differential and another of the side of the motor. Many other illustrations are given which, combined with the copious reading matter, makes the book a leader in its class. A perusal of the pages is a complete car description.



NEW RUNABOUT PUT OUT BY NORTHERN MFG. CO.



PLANT OF THE NEW E. R. THOMAS DETROIT CO.

**Moers a Moon Man**—L. P. Moers has allied himself with the Moon Motor Car Co., of St. Louis. He has already gone into the service.

**Wrong Out**—In the advertisement of the Moers Motor Car Co., in *Motor Age* last week, an illustration of the roadster with surrey seat was run instead of that of the tourer.

**Plant for Vestal People**—O. E. Vestal, of the Standard Automobile Co., has opened a place at Baum and Whitfield streets, Pittsburg, where the Vestal shock absorber will be manufactured. V. N. Weldman will be his manager.

**Silent Knight On Row**—Knight & Kilbourne, Chicago, manufacturers of the Silent Knight, have taken the second and third floors at 1232 Michigan avenue, over the Apperson branch. The floors are each 40 by 170 feet, giving them a floor space of 13,600 square feet. Here will be located the factory, the capacity being sufficient for the manufacture of 100 cars.

**To Change Name**—The Decauville Automobile Co., of New York, has filed notice that on July 10 it will change its name to the Wyckoff-Church-Partridge Co. The names used in the new corporate title refer to C. F. Wyckoff, president; A. W. Church, secretary, and E. S. Partridge, vice president. Under its new title the company will continue to sell C. G. V., Decauville, English Daimler and Franklin cars in Greater New York.

**Quaker Changes**—Last week witnessed quite a shake-up in the Ford establishment in Philadelphia. A. E. Hoffman, the manager of the Quaker city branch, was superseded by J. L. Aikenhead, formerly assistant to Gaston Plaintiff, the New York branch manager. The latter, under the new deal, will be the real head of the Philadelphia branch, Mr. Aikenhead being his representative in Quakertown. Other important changes were the appointment of Harry R. De Groat as sales manager and the addition of Harvey Coulberth to the selling force of the Philadelphia Rambler branch. De Groat, some years ago,

was manager of the Quaker city branch of the Union Cycle Mfg. Co., while Coulberth was the "kick adjuster" of the Diamond Rubber Works Co.

**Big Order**—One of the biggest sales of the year was consummated in New York on Thursday of last week, when M. J. Budlong, president of the Electric Vehicle Co., concluded with President Meade, of the New York Transportation Co., an order for fifty Columbia broughams for the use of the latter company in its rental business. This order follows closely on the one recently placed by the N. Y. T. Co. for fifteen Columbia gasoline cars for the same purpose.

**New Forge Company**—The Cambria Forge Co., of Johnstown, Pa., is the successor to the Hussey Drop Forge & Mfg. Co., maker of Hussey automobile specialties. Officers elected for the new concern are: President, W. Milt Brown; vice-president, R. P. Smith; secretary-treasurer, C. G. Campbell; general manager, P. L. Hussey; directors, the above and John Waters, J. W. Walters, John McClean and E. B. Entwisle. The forge shop is 125 by 65 feet; the die sinking room is 60 by 35 feet, two stories high; the manufacturing department for machine specialties is 60 by 35 feet; boiler power, 350. Two engines, each 75 horsepower, and one engine 35 horsepower, are employed. The forge shop runs in two separate power units, and the die sinking room is run by a separate power unit. The manufacturing department is also run by a separate power unit. To insure close work, and to be able to work chrome and nickel steel in its latest form, steam hammers, five in number, rough out and break down for five board hammers, which are set side by side so as to obviate reheating or destroying the nature of the chrome or nickel, which has caused trouble heretofore. Oil furnaces will be used throughout for heating purposes. Trimming presses are set in line with these hammers so, if necessary, hot trimming can be done. The hammers range from 150 to 3,000 pounds. The company is installing the Ingersoll-Sargent air com-

pressors. The factory will be in operation the latter part of August. In the meantime, the Cleveland plant is running night and day.

**Talk On Automobile Plans**—There was a meeting last week at the Autocar Co.'s factory at Ardmore, Pa., of its agents, including those from Boston, Portland, Chicago and San Francisco. The marked success of types 10 and 12 were reported and the features and size of next year's output discussed.

**Denies Trade Rumor**—It has been rumored that the Bethlehem Steel Corporation will establish an automobile manufacturing plant at a cost of \$1,000,000. This in all probability arises from the fact that the department which manufactures automobile parts is to be considerably enlarged, but that automobiles are to be built is denied by the officials.

**Tire Change**—E. B. White, formerly of the Milwaukee Rubber Works, of Cudahy, Wis., has resigned his position and has formed a partnership with T. T. Wildman, under the firm name of White & Wildman. They have fitted up a show room and office at 1551 Michigan avenue, Chicago, and will handle the entire line of rubber goods manufactured by the Milwaukee Rubber Works Co.

**May Use Alcohol Fuel**—As the Bartholomew company is located at Peoria, Ill., which is the leading center for the manufacture of alcohol and other distilled spirits and as the Woolner Distilling Co. has been making exhaustive experiments with denatured alcohol as fuel for automobile use, it is said that Glide automobiles will be built for the 1907 trade to use alcohol instead of gasoline.

**N. A. A. M. Acts**—At the last meeting of the executive committee of the N. A. A. M., Thomas Henderson, of the Winton Motor Carriage Co., was elected a member of the executive committee in place of R. M. Owen, and was also appointed a member of the membership committee in place of Mr. Owen. William E. Metzger, of the Cadillac Motor Car Co., was elected secretary of the association to fill the vacancy caused by the resignation of Mr. Owen.

**A. M. C. M. A. Committees**—James Couzens, chairman of the standing committee of the American Motor Car Manufacturers' Association, has named the chairmen of the various standing committees of that association, and their associates on the various committees will be appointed speedily. The list is as follows: Show, Benjamin Briscoe, chairman, Maxwell Briscoe Motor Co.; tours and races, W. C. Marmon, Nordyke & Marmon Co.; good roads and legislation, Charles Lewis, Jackson Automobile Co.; membership, W. H. VanDervoost, Moile Automobile Co.; publicity, C. E. Duryea, Duryea Power Co.; finance, J. B. Bartholomew, Bartholomew Co.; standardization, C. E. Duryea, Duryea Power Co. Alfred



Reeves, the new general manager of the association, has opened the headquarters in the Spalding building, at 31 West Forty-second street, New York city.

**Its Man in St. Louis**—W. E. Kaiser, 1512 Locust street, St. Louis, recently made a contract with the Milwaukee Rubber Works Co., of Cudahy, Wis., to represent it in St. Louis.

**Gasoline Goes Up**—Minneapolis dealers anticipate an increase in the price of gasoline of at least 2 cents a gallon. Within a month the retail price there has gone up from 16 to 22 cents a gallon. As this is cheaper than Clevelanders are paying, the Gophers are preparing to see another increase.

**Leader Plans**—The Columbia Electric Mfg. Co., manufacturer of the Leader, is being reorganized. It is said that within the next few months the factory will be removed from McCordsville, Ind., to Noblesville, Ind., where a plant that will permit one machine a day being completed will be secured. It is also probable that the name of the company will be changed at the time.

**Tire Agencies**—The Milwaukee Rubber Works Co. has granted agencies for the sale of Fawkes airless tires to the following: White & Wildman, 1551 Michigan avenue, Chicago; Boston Tire & Rubber Co., 184 Friend street, Boston; W. E. Kaiser, 1552 Locust street, St. Louis; Cincinnati Carriage Goods Co., 840 West Sixth street, Cincinnati, O.; Fulton Avenue Motor House, 110 Fulton avenue, Rochester, N. Y.; J. B. Maxwell, 829 Fourteenth street, N. W., Washington, D.

C.; Phil G. Anderson, Detroit, Mich.; Appel & Brounell Tire & Rubber Co., Dallas, Tex., and J. O. Todd, Southboro, Mass.

**Wins Anti-Skid Prize**—The Samson Anti-Skidding Tire Co., of Paris, won the grand prize at the international exhibition at Milan for anti-skidding tires.

**Club in Memphis**—The Memphis Automobile Club, of Memphis, Tenn., has been organized with a membership of twenty-seven. The following officers were chosen to serve for the coming year: S. T. Carnes, president; B. Caldwell, vice-president; Harry Liggett, secretary.

**Shock Absorber Recruit**—Ed E. Robertson has been appointed general sales manager of the Hartford Suspension Co. The new Hartford garage, at Broadway and Eighty-sixth street, New York, is having machinery installed so that Hartford-Tru-fault shock absorbers may be fitted to cars "while you wait."

**Duquesne Assigns**—The Duquesne Construction Co., of Jamestown, N. Y., made an assignment on June 7 to Attorney Herbert L. Hunt, of Jamestown. Mr. Hunt took possession at once. The assets consist principally of parts of automobiles, many of which are nearly complete. Some of the creditors, it is alleged, have begun actions against the company and, fearing that all the other creditors would do likewise, the company decided to assign. A deal is now pending whereby the factory is to be moved to Erie, Pa., and but for the mysterious disappearance of Michael Liebel, Sr., father of Michael Liebel, Jr., the leader of the Erie enterprise, the deal probably would have been

closed already. It is planned to capitalize at \$300,000 and embark in the automobile business on a large scale.

**Collins in for Himself**—Denny P. Collins, formerly of the Banker Brothers Co., of Pittsburgh, has started in the automobile business for himself and will handle the Columbia in Pittsburgh.

**From Advertising to Tires**—M. B. Richardson, formerly connected with the Jules P. Storm advertising concern, has been made New York sales manager of the R. & P. Traction Trade Tire Co.

**Orders Franklins for 'Frisco**—Since the disaster the H. H. Franklin Mfg. Co. have received orders for four carloads from G. A. Boyer, its representative, and has found it necessary to send a man to the coast to assist Mr. Boyer.

**Rippen Rushed**—Paul P. Rippen, the Philadelphia Prest-o-Lite gas tank and Schebler carbureter man, has been compelled by the growth of his business to abandon his rather contracted row quarters at 327 North Broad street, and seek a much larger establishment at 1207 Race street. The change will be effected about June 15.

**New Plant Needed**—Thomas B. Jeffery & Co. have concluded to build an entirely new plant for their Philadelphia branch, at 207-209 North Broad street, instead of altering the present structure now on the lot. It will be of fireproof construction throughout, three stories in height, and is to be completed by September 1, on which date Manager W. J. Smith has announced that he will be ready to make deliveries of 1907 Ramblers.

## THE READERS' CLEARING HOUSE

### BATTERY AND DYNAMO

Savannah, Ga.—Editor Motor Age—Please inform me through the columns of the Readers' Clearing House if I can use a storage battery on my car with as good results as I have had in the past with dry cells and still not have to use a dynamo to keep the storage cells charged. Will it be better to have the complete charging system installed, dynamo, storage cells and all, or can I have my battery charged and kept in good condition for less money? I do not know anything about such matters, so will appreciate anything you can tell me about it.—Motorist.

The service given by a set of dry cells depends a great deal on the quality of the battery, chemicals used therein, length of contact on the timing device and other conditions. The same applies to storage cells, but they can be recharged after being run down, whereas the dry cells must be thrown away. The charging of the storage cells can be done with little inconvenience providing you have a station handy which does such work and in that case a set of cells could be loaned you

to use while yours is being charged. There are dynamos made for ignition purposes which can be utilized on your car. The dynamo will have to be fitted with governor in order that a uniform output of current be supplied to the battery at all times when the dynamo is in circuit with the battery. A switch will have to be provided in the circuit between the dynamo and the battery, so that when the engine is stopped the circuit can be opened between the battery and the dynamo, else the current will flow from the battery back through the dynamo until the cells are run down, in which case there will be no current with which to start the engine the next time. It is not necessary with such an equipment to use the dynamo all the time—only to keep the batteries in good condition. With a dynamo and set of cells of the proper size, ignition cannot only be provided for, but two or three four-candle power lights may also be used. The lights will have to be run direct from the battery and a switch used between them and the battery so that they can be cut out when not needed.

### HUMMING GEARS

Logansport, Ind.—Editor Motor Age—When I bought a new car this season I was told the humming noise in the bevel gear on the rear axle would soon wear away, having been very perceptible at the time of delivery. I see no material lessening of the noise and wonder if the gear is correctly made or if out of order. At times the noise almost dies away, particularly when the motor is throttled down. What is the cause of this—E. E. B.

It does not imply that the gears are wrong in any way because they make a humming noise. This is noticeable in some of the best known cars. The gears may be set up too tight or they may be off the pitch line. If the noise is steady it would indicate only a close fit and if well lubricated should cause no trouble. When the motor is throttled it is likely the momentum carries the car ahead of the motor speed, which accounts for the apparent absence of the humming noise at times. See that the gears are thoroughly cleaned, nicely adjusted and packed with grease and they will cause no trouble.



### APRONS FOR CARS

Philadelphia's city councils devoted no little time last week to automobile matters. Besides passing the anti-siren law, the municipal lawmakers discussed the drip-pan ordinance, and as all the arguments seemed to be "pro," it is likely that ere long it will be illegal to operate in the Quaker city a motor vehicle which is not provided with an apron or pan to prevent oil from dripping on the streets. The "come-up-double" tag question was also thoroughly aired, and the ordinance repealing the local law was sent back to the law committee to be revamped and put into such shape as will head off objections of wagon drivers, who now pay a city license for their vehicles and are liable to raise a howl if a local law is passed exempting automobiles—overlooking the fact that the latter now pay a state license fee. The prospects for the passage of a repealer in some shape at the present session are, however, good, and before July 4 it's safe betting that the double-tag nuisance will be a thing of the past. Meantime those prompt gentlemen who rushed to the bureau of boiler inspection and purchased a tag immediately upon the announcement of the decision of the supreme court that the city had a right to make automobile regulations of its own are kicking themselves over their precipitancy. About 500 of them "came up," and it is extremely unlikely that there will be a come-back for any of them. The city tags may, however, have a future value as souvenirs.

### OUTCRY FROM CHICAGO

Another outcry has been raised in Chicago over the alleged persecution of motorists along the north shore drive. This time the "holler" comes from Frank P. Collier, who was fined \$35 by Justice John Ling, of Wilmette, a few weeks ago. Collier refused to pay the fine and will take the case to a higher court. At the same time, through the daily press, he has made his kick, accusing the village officials of persecution and misrepresentation. Part of his letter is as follows:

"A year ago I learned that the then president of Wilmette contemplated the 'police trap' for automobiles. This form of petty persecution has since been abandoned by every village and municipality in the country, except Wilmette.

"I protested against the infamous and obnoxious features of a plan which forced village officers to skulk behind trees, lie

in nests in the weeds, and even hide in piles of dead branches on the garbage dump. Even under such conditions they never caught a single scorcher. They could get only those traveling at moderate speed and who stopped when accosted.

"I doubt the motives of any man or body of men who use the law as catspaw for revenue. I was warned times without number that they were 'laying for Collier.' The only evidence presented against me was secured by timing me by a cheap watch held in the hands of a man wholly incompetent to compute time or speed.

"I appeal to any advocate of the 'square deal' if there is any possible excuse why a well known, taxpaying citizen should be pounced upon by officers with drawn clubs and humiliated by being haled through the streets under arrest for a supposed violation of a village ordinance. Is there any ordinance that demands such an unseemly and drastic course?"

### DETROIT BATTLE PENDING

Automobilists of Detroit, as well as the heavy trade interests, are lining up for a legal battle which will be fought to a finish, first on the floor of the council chamber and later, if necessary, in the courts. An ordinance has been prepared and will be presented to the city council next week, limiting the speed of automobiles to 4 miles an hour within what is generally known as the mile circle, whenever the route of the car is over a street occupied by the tracks of the Detroit United railway. As this includes, as a matter of course, practically all the business thoroughfares of the city, such a drastic reform will be fought in every way. Alderman Zink is the father of the ordinance, which was drawn up by Assistant Corporation Counsel Hally. The alderman delights to be known among automobilists as the "chief obstructionist" and is a victim of motorphobia in its most virulent form.

In the city council the measure will be fought on the grounds of its injustice. If passed, however, test cases will be immediately made and the constitutionality of the ordinance attacked under the theory that the state law recently passed, limiting speed to 25 miles in the country and 8 in cities, makes further local legislation impossible.

The measure not only prescribes a low speed limit, but makes it obligatory on

the driver of every car to bring his machine down to the speed of 1 mile an hour when about to cross a car track.

Practically every accident in Detroit this year in which an automobile has figured has been combined in some way with an electric street car, and several cases have been plainly due to the erratic actions of the people who have just stepped off the street car and who, after several false starts, have finally lost their heads and rushed squarely into the path of the oncoming automobile.

Enough aldermen have already put themselves on record in the matter to make the proposed ordinance look difficult to defeat, although Mayor Codd, himself an automobilist, has yet to go on record in the matter.

### AS THEY DO IN JERSEY

It's worth big money to hold a constablenesship in any of the towns along the Philadelphia-Atlantic City route these days. The road surface is so fine and the country so level that the 20-mile limit can be exceeded by almost any old car that has an engine in it, and few of them escape at least one fine on the trip. Indeed, hold-ups and "hearings" are becoming the rule rather than the exception. The fact that the average automobilist would rather pay a fine than suffer the detention and notoriety which a contest would render necessary is taken advantage of to the limit by the wily officers. One man "in a hurry" complained on arriving at the shore last Saturday that he had been stopped and fined five times. And in each instance the justice of the peace had been so conveniently near as to give rise to the suspicion that it was a "put-up game." "There was one consolation, however," sighed the victim. "I lost less than 15 minutes." That's an average of less than 3 minutes to a hold up. They do these things with neatness and dispatch—and profit—in Jersey.

### QUAKERS BAR SIRENS

No more will the soul-terrifying ululations of the brazen "resurrection horn" resound through the quiet highways of the Quaker city. Never again will the Philadelphia equine be scared out of several hands' growth by the siren's shrieks. For the city fathers have said it, and the good mayor will without doubt attach his John Hancock to the ordinance and make it law. The siren to the junk pile! The "honk-honk" is good enough for the Quaker. It is a severe blow to the noise-making industry, and tugboat captains and factory owners are profiting by the bear market. The director of one of the busy little harbor craft scooped in a \$75 shrieker for \$6, and now he warns other vessels away with it. A downtown factory owner made a ten-strike when he put up four simoleons for an almost new "agony howler." He says hereafter his hands cannot make any mistake as to when work begins at the shop.



# Current Automobile Patents

**Mechanical Lubricator**—No. 822,900, dated June 5; to J. F. McCanna, Chicago—The feature patented in this lubricator is the method of varying the stroke of the different plungers from the outside of the oil reservoir. In the lubricator the entire pump mechanism is encased within the oil reservoir. The top of each plunger or piston rod ends in a yoke within which works an eccentric for raising and lowering the piston, giving it a reciprocating action. Projecting through the top of the reservoir casing above each pump is a threaded bolt, the bottom of which enters one arm

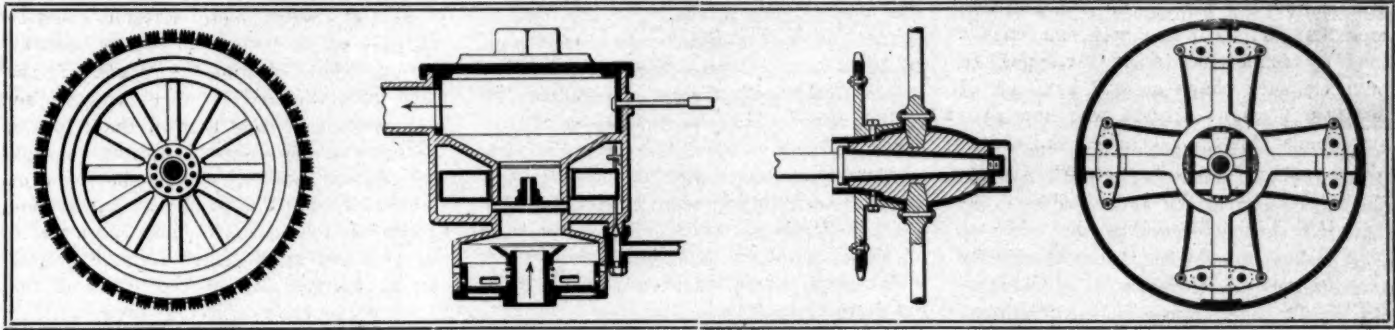
solid rubber type. With weight on the wheel the perimeter of the disks separate owing to their spring action and the diameter of the wheel is lessened. After the disks have separated to a predetermined point and the wheel diameter has correspondingly decreased, there is a central radial support between the disks with a coil spring attachment, against which the inside of the tire rests.

**Hub Sprocket**—No. 822,665, dated June 5; to J. Higdon, St. Louis, Mo.—Instead of bolting the sprocket for side chain drive to the spokes of the back wheels of

side of the rim. In the side lips of each covering section is an eyehole, through which the rings pass.

**Pneumatic Tire Cover**—No. 822,307, dated June 5; to W. W. Scarborough and C. E. Schultz, Knoxville, Tenn.—The outer covering of this tire has its tread part perforated with a series of circular openings into each of which is inserted a shoe covering, that has flanged inner parts resting between the air tube and the tire cover. Each of these shoes has a roughened tread part, and is held in place by the flange portion, secured between the inner tube and the tire casing. It appears covered with bearded spots.

**Gasoline Carbureter**—No. 822,681, dated June 5; to R. A. Middleton, Rexburg, Idaho—This carbureter is of that popular type in which the spraying nozzle is located in the center of the float chamber and consequently in the center of the ring-like float. A general air and an auxiliary



SCARBOROUGH'S TIRE

MIDDLETON'S CARBURETER

HIGDON'S SPROCKET

RAMAGE'S WHEEL

of the yoke of the piston. By screwing this bolt down the size of the yoke is varied, the end of the screw bearing upon the eccentric. In this way the pump is forced to feed more lubricant. It is understood that the eccentric operating within the yoke is much smaller at its point of greatest diameter than the cross diameter of the yoke.

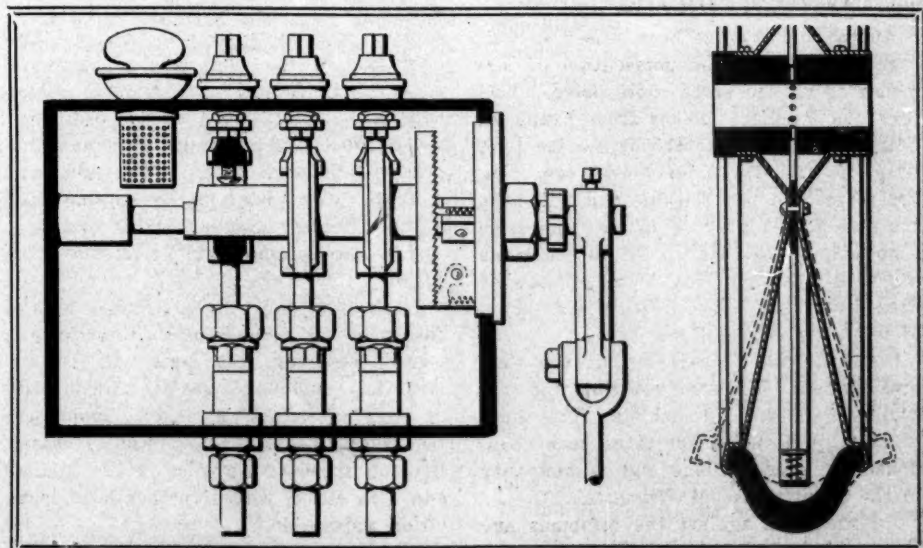
**Spring Wheel**—No. 822,476, dated June 5; to A. G. Ramage, Edinburgh, Scot.—The wheel patented has only four spokes attached rigidly at their outer ends to the wheel rim and at their inner end to a large hub which is much larger in diameter than the bearing hub. On the outer end of each spoke is a pair of small rollers, one at each side of the spoke. Connecting the rollers on opposite spokes are two slightly curved flat springs which, at their centers, are attached to the bearing hub. As the wheel revolves the load is carried upon these springs, the large hub making an eccentric motion around the bearing hub, and the space between it and the bearing hub affording room for the flat springs to work.

**Spring Disk Wheel**—No. 822,615, dated June 5; to L. G. Langstaff, New York City—Instead of spokes in this wheel there are opposing spring disks extending from the hub to the tire. A rim or felloe is not used. The tire rests on the outer perimeter of the disks and is of the V-shaped,

a motor car, the inventor mounts the sprocket on a flaring hub piece, which hub slips over the inner end of the wheel hub and is attached thereto by bolts.

**Tire Protector for Pneumatics**—No. 822,651, dated June 5; to J. Coan, Kansas City, Mo.—Over the tread of a pneumatic tire is placed a series of overlapping cover pieces, each about 3 inches in length. The tread parts of these have cross grooves to increase the adhesion. In fastening each of these to the tire a ring surrounds each

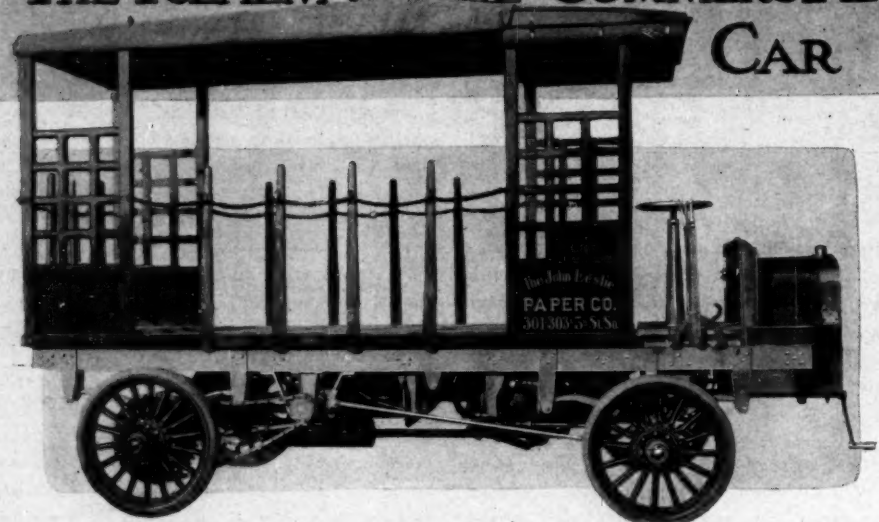
air supply are furnished, both of which are directly beneath the spraying nozzle. The general air inlet is a vertical tube, always open, and through which the air passing strikes the base of the nozzle. The auxiliary air enters through a spring-controlled valve surrounding this general entrance, the apparent motive being the securing of both air currents in the same direction, with the result of no opposition currents when the auxiliary opening comes into action. This is counted meritorious.



MCCANNA LUBRICATOR

LANGSTAFF'S DISK WHEEL

# THE REALM OF THE COMMERCIAL CAR



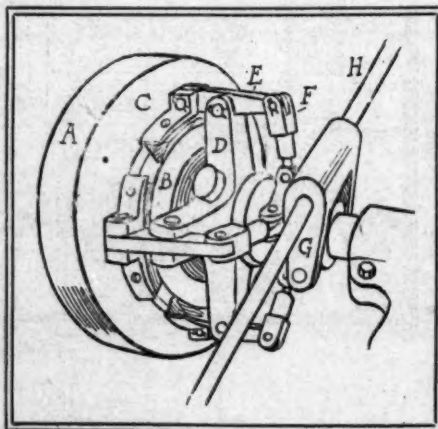
THE 2-TON TRUCK OF THE KANSAS CITY MOTOR CAR CO.



AD Solomon lived in this day of strenuous motor car and motor truck competition, when each maker is producing what he terms "better than anything previously produced;" when each designer has his annual serial of new devices, new connections and new schemes; and when each salesman has an army of inner pockets filled with "best arguments for selling motor machines," he undoubtedly would have translated his "Vanity, vanity! all is vanity and vexation of spirit!" into "Motoring, motoring! all is motoring and enlightening of spirits." The multiplicity of motor designs that crops out each year is in itself marvelous and becomes more marvelous when contemplated in the light that all these varieties of designs are but outward evidences of what is daily finding life in the brain of man. It is a visible, tangible language telling of the unprecedented march of present day progress.

On this and the following pages is illustrated a new vehicle in the commercial field, a vehicle which was formally introduced to the public at the recent Coliseum automobile show in Chicago and which has since then been used daily by many of the business houses of Chicago and other western cities, drawing their loads, doing their odd runs and trying in its way to convince the public of its right to reception into the growing army of American commercial machines. This vehicle, the Kansas City 2-ton truck, built by the Kansas City Motor Car Co., Kansas City, Mo., is replete with novelties, among which can be noted a style of motor not generally adopted in this country or abroad, a wood clutch, an interesting spring suspension and an uncommon control outfit. The truck, of the 30-horsepower stamp, carries a four-cylinder motor, of the four-cycle, four-cylinder, water-cooled type with all of the cylinders placed horizontally beneath the center of the chassis. The cylinders

are opposed, two to the right and two to the left of the crankshaft, which lies from front to rear midway between the side pieces of the main frame. Its definite location appears in the top view of the chassis. Each cylinder is a separate casting having its valve port and waterjacket, as well as cylinder head, cast integrally with the cylinder walls. The inner ends of these cylinders have large flanges by which they are bolted to the sides of the crankcase, which takes the form of a massive box, split horizontally in line with the crankshaft bearings, with top cover removable and when off disclosing the crankshaft, camshaft and connecting rods. Inlet and exhaust valves are disposed in the ports on the tops of the cylinder heads, the feature of the valves being the use of automatic inlet valves in the outer end of the ports and directly opposite to the exhausts. Operating the latter necessitates a single camshaft carried in the top half of the crankcase above the crankshaft and driven off the crankshaft by the usual spur gears. Both inlet and exhaust pipings to and from the valves assume rather uncommon lines, the exhausts being a Y at each side between the cylinders with the ends of the Y connecting with the re-



CLUTCH OF KANSAS CITY TRUCK

spective ports. Both of the Y stems are continued beneath the crankcase where they unite and pass to the muffler. The inlet pipes are similar except being much smaller in diameter and having the Y between the pairs of cylinders opposed in position to the exhaust Y, the effect, as viewed from above, appearing more complicated than it really is. The carbureter is carried low at the right. A Schebler is the regular equipment. Those parts of the motor not seen from the outside have been the subject of careful construction. The crankshaft is a forging of selected steel, made with ground bearings which work in phosphor bronze bushings, with a babbitt lining. All pistons, rings and cylinder walls are ground to a mirror finish; four rings hold the compression in each cylinder. In both the crankcase and pistons a grade of gray iron has been used. The flywheel, also of this metal, weighs 120 pounds and is secured by a series of bolts to an integral flange on the crankshaft. In cooling a large Stolp radiator, containing 179 feet of water tube surrounded by cooling agents, forms the front of the truck bonnet. From it water is taken by pump action directly to the center of the valve ports and after circulating through the jackets has return connections of standard form. The pump is chain-driven. Ignition is by the usual jump spark method, with the spark plugs for the system carried horizontally in the sides of the valve ports and receiving their current from either storage cells or a dynamo belt driven off the flywheel and carried on the chassis frame directly to the left of the clutch. The current in passing from either of these electrical sources goes through a Splitdorf coil and is delivered to the plugs by a LaCoste commutator. The lubrication problem, so paramount in commercial vehicles, is deserving of attention in this car in that special effort has been exerted to make it efficient. The oil reaches the motor through eight sources. Six are oil tubes leading direct from a Hancock mechanical, sight-feed lubricator. Of these six two enter the top of the crankcase, their quota going to swell the oil level and also doing duty with the camshaft. The remaining four go to the cylinders, one entering the top side of each cylinder at the inner end of the waterjacket, the flow of oil being distributed by the piston rings along the cylinder walls and to the wrist pins. To add to this mechanical supply there is the addition of two compression oil cups, one for each of the end bearings of the crankshaft.

Transmission from the motor is by a peculiar clutch, two-speed and reverse sliding gear transmission and jackshaft with side chains. The clutch is neither of the cone, multiple disk nor band type, but of what might be termed a segmental type made of wood. On the rear side of the flywheel is a wheel piece B of half the flywheel diameter and provided with a V-slot around its circumference. In this slot



rest four wood segments C, each made to fit snugly into it. Each segment gets its support through a rocker arm lever E pivoted to one arm of a star piece D carried on the shaft to the gearbox. The rear end of each lever E is pivoted to the outer end of a link F, which is attached to a ring running idle on the transmission shaft. To the end of the rod H is attached the rod connection to the lever for engaging and disengaging the clutch. From this rod is a pair of depending arms G, which have a yoke ending engaging with a collar on the rear face of the ring to which the links F are attached. Pulling the arms G back will pull the inner ends of the links F back. As they come back they will pull the rear end of the levers E down, thus raising the forward ends of these levers and so taking the wood segments C out of the groove in the wheel B. This is disengagement. To engage the arms G are thrust forward and the exact opposite results take place. The disengagement and engagement are by a side lever at the right of the driver. No springs are used to hold the clutch in engagement and consequently any end thrust is avoided. The maker claims that this clutch has been used on a heavy truck for months over the hills of its native city and state and that it gives perfect satisfaction. As yet Motor Age representatives have not had an opportunity of enjoying a demonstration in the truck. Should any of the wood shoes or segments wear it would be an easy matter to replace them.

The transmission case is carried on two crosspieces of the mainframe, one piece, the forward one, being straight, but the other considerably dropped in the center. Like most gearboxes for side chain drive cars, it is made to house the differential, carried in the back part, which portion of the case is narrowed to the size of the differential. Gears on both the main and the countershaft are made of wide face, and are case hardened. The sliding gear operates on a squared shaft; phosphor bronze bearing cages with babbit linings

carry both shafts; lubrication is by an oil bath; roller bearings carry the jackshaft at either side of the transmission box, and similar bearings support it at the ends beneath the frame pieces; the jackshaft carries on each end a steel sprocket for the chain drive, and the sprockets on the rear wheels are of large size. The side view of the truck shows the location of the jackshaft, it being hung low beneath the side frame pieces by the use of dropped brackets bolted at either end to the under side of the frame pieces with a heavy brace between the top of the bearings and the frame pieces to lend rigidity. From the forward side of this bracket extends a brace rod to the front axle and from the rear is a much shorter radius rod with turnbuckle for adjustment of the chain tension.

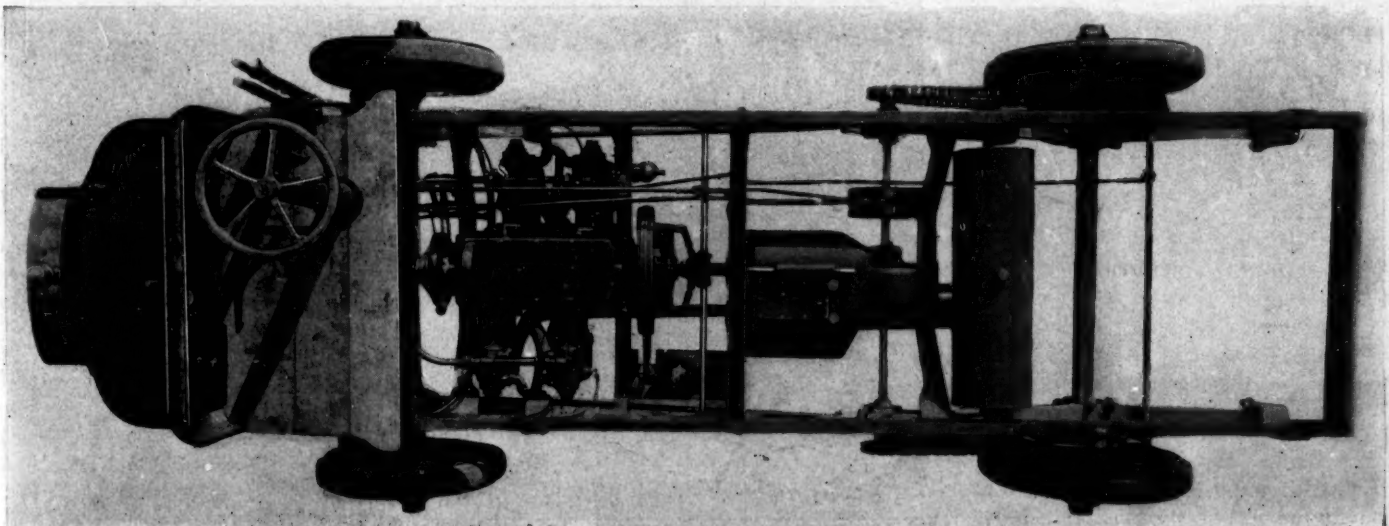
Such points as the following constitute features of the running gear: Both axles are of solid, forged steel parts, in square section and made straight from end to end, affording good clearance; the frame is of channel steel parts, the side pieces straight from end to end and tied together by crosspieces which lend support for the motor and gearcase; springs are of the semi-elliptic type in front and rear, the long, vertical spring hangers, consisting of metal plates hung from the frame, being conspicuous; the wheelbase is 91 inches, the tread is 69 inches; wheels are 34 and 36 inches in front and rear, respectively, and carry 4-inch tires; the load-carrying platform is 132 inches in length in rear of driver's seat and 60 inches wide; a small frame in front of main frame, on which radiator is carried, affords room for footboard; a hollow metal dash offers protection for the coil and other parts, and the steering gear is operated through a vertical column with hand wheel. Three brakes are installed, a contracting band operating on a wheel on the jackshaft to the right of the differential and two other brakes acting on drums on the back wheels and pedal applied. Bodies of the stake or lattice side with canopy top are fitted.

Besides this particular model this com-

pany is putting on the market several other styles of commercial machines, all of which are characterized by the use of the four-cylinder, opposed motors, segmental clutches, two-speed and reverse transmissions and side chain drive. Of these other machines the smallest is the 2,000-pound wagon with 30-horsepower motor, 95-inch wheelbase, 56-inch tread, 30 by 3½-inch tires and carrying space 66 inches long and 45 inches wide. Next follows the 2-ton wagon described above. After this comes a 3-ton truck with 50-horsepower motor, 34 by 4½-inch wheels. Next above this in order of load capacity is a 6-ton truck with 60-horsepower motor, the cylinders having a bore and stroke of 5½ and 5 inches. On this truck the tires are 36 by 5 inches. Lastly comes the 10-ton truck, the biggest of the field, and one of the largest commercial machines yet brought out in the American market. It has a 60-horsepower motor, weighs 6,000 pounds and carries 36 by 5½-inch rubber tires.

#### TACOMA'S NEWEST ENTERPRISE

The Automobile Livery & Express Co., of Tacoma, Wash., has been organized with a capital stock of \$25,000, by W. L. Loomis, Fred G. Bordon, Jess E. Russell and Virgil Elmer. The company has now two cars for general rental, is having a third, a Winton, built for expressage. It expects by July 1 to have a twenty-passenger car, to be operated for sight-seeing in Point Defiance park, a 640-acre pleasure ground. The necessary permit to operate the large car has already been secured from the park board. Very little of this park has as yet been developed, with the exception of that section nearest the city, where there is a menagerie, horticultural observatory and other park acquisitions. The road leading around the point is at present little better than a trail, and the company has agreed to expend considerable money upon it, also to provide picnic places at the most distant point. The distance around is 6 miles, and the plan is to run the large car on a ½-



PLAN VIEW OF CHASSIS USED IN 2-TON TRUCK MADE BY KANSAS CITY MOTOR CAR CO.



MOTOR CAB LINE IN TRAFALGAR SQUARE, LONDON

hour schedule. Passengers will be permitted to leave the car farther out, and return by some subsequent trip, without having to pay an additional fare. The company has already located quarters at 1308 Tacoma avenue, which appears to be one of the most convenient streets for an automobile business in the city. It is well paved, leads to the north-end business district, and to the prairies south of the city, without encountering any grades. This street is a little more than half-way up the hill, and above and beyond which the country is level.

#### SAVES \$48.64 PER MONTH

The Wissler Hardware Co., Chillicothe, O., uses a 10-horsepower two-cylinder air-cooled Logan delivery wagon in its general distribution work, and during the month of May kept close tab on the expenses of operation. The wagon is now in its fourth month of operation and daily gives a good account of its prowess. The illustration shows this wagon, with a carrying capacity of 1,000 pounds, ascending what is stated to be an 18 per cent grade with a load of fifteen hay racks, each weighing 100 pounds, making the total load 1,500 pounds, or 50 per cent overload. During the month of May this wagon had a total mileage of 704 and its operating expenses were as follows:

Gasoline, 54 gallons at 14 cents per gallon	\$ 7.56
Lubricating oil, 2½ gallons at 40 cents	1.50
Repairs	6.40
Wages of driver	32.50

Total .....\$47.96

A canvass of local merchants who use one-horse delivery wagons resulted in obtaining the following information regarding the monthly expense of caring for such a horse outfit:

Livery fees for stabling and food	\$12.00
Shoeing	2.00
Repairs on wagon	1.80
Wages of driver	32.50

Total .....\$48.30

The Wissler company states that it does as much work with the little motor wagon

as it can do with two one-horse wagons. The total monthly expense for the two one-horse wagons would be \$96.50, thus showing a net monthly gain in favor of the motor wagon of \$48.64. In this connection it may be noted that the motor wagon averaged 27 miles per day for the entire month, which approaches almost double the mileage of the average horse wagon and gives one a concise idea of what the commercial wagon can do in this kind of service.

Readers of Motor Age can figure out where a merchant operating a motor delivery wagon at this expense finds his delivery account at the end of the year. A wagon of this style, costing \$1,000, making a saving of \$48.64 per month, has a yearly saving of \$583.68. The interest on a \$1,000 investment amounts to \$50 per annum and, assuming that a machine of this class has but a useful life of 3 years, the depreciation amounts to 33 per cent per annum, making the entire investment and depreciation expenses \$383 per annum. Taking this from the annual saving of \$583.68, there still remains a balance of \$200.68, which is a considerable amount to a mer-

chant in a small-sized city. The depreciation of 33¼ per cent is greatly overestimated, as commercial vehicles receiving proper attention will at least last for 5 years, and from observation certain makes will in careful hands considerably outlive this limit.

#### LONDON CAB LINE

Another step in the motor conquest of London occurred 2 weeks ago when the first motor cab line was established. Long lines of horse cabs bordering the sidewalks of Trafalgar square have been familiar sights for years, and the advent of a line of motor cabs caused nothing short of brief consternation, the passing crowds pausing to take a look at the new comers and not a few trying them. So far, their work has been most successful and prospects are for a most prosperous run. Already more lines are talked of. The cabs are of the hansom variety with the exception that the driver occupies a single seat in front, the bonnet, dash and vertical four-cylinder motor being located as in touring cars. In general pneumatic tires rule on the four wheels with anti-slip protections for the rear pair. In a few cases solid rubber tires are in use on the front wheels. The rear seat for two passengers is practically an exact duplicate of the well-known American hansom, with its glass sides, dropping glass front and swinging doors beneath. Operators wear a special uniform.

Their field of usefulness is not restricted. Trafalgar square, crowded from morning until night, is a paradise for motor cabs and hansoms. The recent landslide of public favor towards motor omnibuses will prove a veritable boon to the cab line, the Londoners preferring on all occasions the speedy, silent motor vehicle to the slower horse vehicles. Prices charged are normal, the operators depending on increased mileage and abnormal popularity to make up the additional initial cost.



WISSELER'S LOGAN DELIVERY WAGON ON A GOOD GRADE



## COMMERCIAL STEPPING STONES

**Another Rubberneck**—A "Seeing the North Shore" automobile line has been organized in Beverly, Mass., with S. H. Dow as president.

**Will Run Twice a Day**—J. C. Morris is about to install an automobile line from Hooker, Okla., to Carthage, running on a schedule of two trips a day.

**Studebaker and Olds Agent**—The Kirk Bros. Automobile Co., of Toledo, O., has taken the agency for the Studebaker motor truck and Olds delivery wagon lines.

**Electric Line**—The New England Electric Cab Co., Boston, Mass., has been incorporated with a capital stock of \$100,000, to run a motor bus line. I. L. Fairbanks, of Auburn, is the president and treasurer of the company.

**Woman as a Promoter**—Mrs. C. F. Simmonds is the promoter of a new automobile passenger line between Ripon, Wis., and Green Lake. A twelve-passenger car has been ordered, and if the venture proves a success more will be added.

**Running in New Jersey**—The East Jersey Motor & Transportation Co. started its first motor car from Main and Cherry streets, Rahway, N. J., on May 22. This was a trial trip to test the route. Cars will be run from Elizabeth, Rahway and Carteret.

**Motor Morgue Wagon**—The county commissioners of Allegheny county, Pa., have finally bought a White steamer, to be used at the county morgue. It will be a creamy white vehicle and will do the work of the two morgue ambulances that are now employed.

**Truck Plant Nearly Ready**—Officials of the Standard Motor Truck Co. have announced that their new plant at New Castle, Pa., will be operating by August 1 with a force of 200 men at the start. This number will be increased to 600 by the end of the year. The plant is controlled by the Standard Steel Co., of Butler, and will have a big agency in Pittsburgh.

**Located in Tyrone, Pa.**—The Commercial Truck Co. of America has been organized in Tyrone, Pa., with H. S. Kerbaugh as president. The old plant of H. S. Kerbaugh, near Bellwood, has been absorbed by the new concern, and a new plant will be built for the manufacture of motor trucks. A \$50,000 power plant will be built to furnish the power for both the new and old plants. The new industry will employ about 300 men.

**Using Cars to Inspect**—The Cleveland Electric Railway Co., of Cleveland, has demonstrated to its satisfaction that the automobile is a wonderful time-saver for its officials who do outside work. The engineer of track, general manager, the electrical engineer and the chief

engineer have all been provided with motor cars and they are used daily to inspect the road work and power houses.

**Motor Truck a Dummy Engine**—A 5-ton 24-horsepower Matheson motor truck is being used in the yard of the factory of the Palmer Lime & Cement Co. to draw trains of ten flat cars formerly pulled by a dummy engine.

**Ready June 1**—The Long Branch, N. J., Public Service Co. has been organized with a capital of \$3,500, and the automobile line will be in operation about June 15. Ultimately the capital stock of the company will be \$100,000.

**Baltimore Venture**—The Automobile Outing and Transportation Co. has been organized in Baltimore, Md., for the purpose of dealing in automobiles, and conducting a carrying or transportation business that can be conducted by a corporation formed under the general laws of the state. The capital stock of the company is \$50,000, divided into 500 shares of the par value of \$100 each. The incorporators are Charles H. Harig, Reginald S. Opie, Lindsay C. Spencer, Jack Q. H. Smith, Jr., and Addison E. Mullikin.

**Automobile Ambulance**—The automobile ambulance which was exhibited in Boston during the past week at the annual meeting of the American Medical Association proved a most attractive feature. It was sent on from Washington with a squad of men under the command of Captain B. H. Dutcher and Assistant Surgeon Koerper. The ambulance will carry eight persons sitting or four lying on stretchers. It has a wheelbase of 128 inches and on 15 gallons of gasoline and 17 gallons of water will carry a load of 3,250 pounds 125 miles.

**Chance in Guadalupe**—Information comes from Guadalupe that there is an opportunity just now for an enterprising American to run a daily passenger line of automobiles from that place to Basse-Terre, a distance of about 40 miles. The government of that West Indian island will grant a subsidy of \$6,000 annually for the assurance that the mail will be taken twice daily, and will require a deposit of \$1,500 to insure faithfulness of contract, which can run for 20 years. With the present facilities, travel between these towns is quite a problem. It takes 6 hours or more by boat or diligence, neither of which run daily, and it is said that a daily motor line would pay. It would require about six cars, one each of ten, eight, six, four and two seats and about the same number of chauffeurs until local men

could learn to handle the machines. The route is over a good road, but runs through valleys and over mountains, hence strong machines will be needed.

**Starts with Tri-Car**—The Lasalle & Koch Co., a big department store concern, of Toledo, O., recently installed an Indian motor tri-car for the delivery of small packages. The company may install an electric delivery wagon, in addition to one gasoline car now in use.

**Going to Rochester**—A company has been organized at Parma Corners, N. Y., to run a motor bus line from that town to Lake avenue in Rochester. Each automobile will have a capacity of ten persons, and they will be operated on a regular schedule.

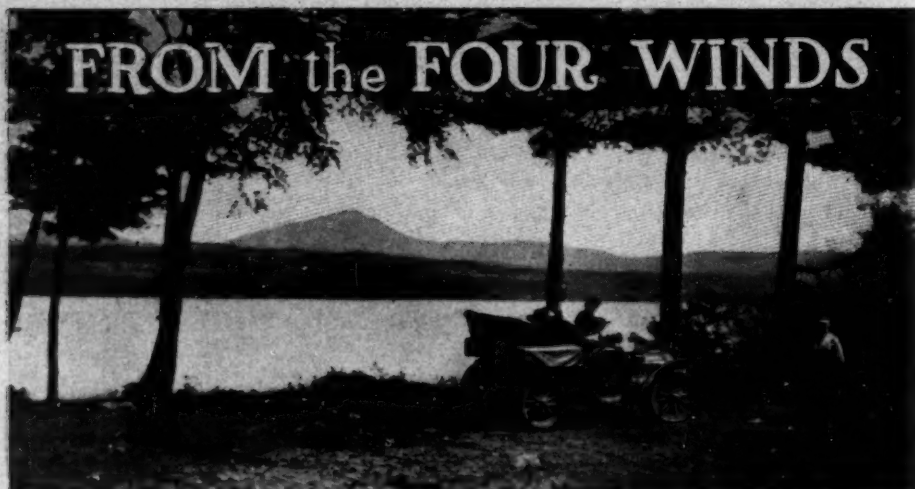
**Premier Truck**—Although the Premier Motor Mfg. Co. at Indianapolis is paying no particular attention to the commercial side of the automobile industry this season, it has recently completed a 1-ton delivery wagon to be used in the delivery service of the Philadelphia store of John Wapamaker.

**Six-Bus Route**—When the Lewis Point Land Co. opens the season at Lewis Point, on Oneida lake, N. Y., in addition to the regular boat service, it will establish an automobile bus service running between Oneida and Lewis Point and Canastota and the same place. Six buses have been secured for the route.

**Buy Knox Trucks**—The Knox Automobile Co., Springfield, Mass., has sold 3-ton trucks to the following concerns: Lehigh Car Wheel & Axle Works, Catasaqua, Pa.; Bell Telephone Co., Philadelphia, Pa.; Norwood Ice Co., Northampton, Mass.; Edw. Smolka & Co., Inc., New York city; W. E. Fanning, Hartford, Conn.; Mobile Carriage Co., San Francisco, Cal. Other recent sales are 3,000-pound trucks, of the new style D6 variety, to George E. Dewey & Co., Hartford, Conn.; American Bread & Pie Co., Baltimore, Md.; a D3 truck to Rood & Woodbury, Springfield, Mass., and two model E light deliveries to Mobile Carriage Co., San Francisco.

**Motor Canal Boat**—A canal boat propelled by a gasoline engine went through Syracuse, N. Y., last week. It carried a cargo of freight from Utica to Rochester. The craft is owned by E. Leonard, of Troy, and the gasoline engine and attachment is owned by Montgomery H. Johnson, of Utica, who possesses all the patent rights. The craft looks like the average canal boat except in the rear of the cabin is the gasoline engine which is similar to those used in automobiles. By means of a chain belt from the engine to the propeller wheel, the boat is moved. The speed of the craft is 4 miles an hour, and it seems to be a success.





LAKE WEBB AND MOUNT BLUE THROUGH A MOTORIST'S CAMERA

**Twenty-two Enter**—The entries for the Rochet-Schneider cup race are now in and twenty-two cars will dispute the match on the Auvergne circuit on June 3.

**Winton European Tour**—T. W. Henderson, of the Winton Motor Car Co., is in Paris with two Winton touring cars in which he will conduct a tour of the chateau district of France, and along the Rhine and in Switzerland. The party is limited to eight persons.

**Haynes After Cup**—Elwood Haynes will again try for a place on the American team in the Vanderbilt. He will soon file an entry for a 50-horsepower Haynes, which will be driven by Frank Nutt, who also handled the Haynes in the last eliminating race. Mr. Haynes will again try with a stock car, using the 35-horsepower chassis with a more powerful motor.

**Soak 'Em**—Justice Nash, of Buffalo, is a great enemy of automobile and motor cycle scorchers. He said in court recently: "I am going to fine every man who is brought before me for scorching. The only exceptions will be physicians responding to urgent calls and in cases where it can be clearly proven that the machine was beyond the rider's control. It is becoming altogether too common a sight to see motor cycles dashing along the principal streets at the rate of an express train."

**Pittsburg's Orphans' Day**—The orphans' day parade of the Automobile Club of Pittsburg was a pronounced success. Ninety cars gaily decked with flags and banners were in the procession and over 500 little tots were taken about the parks. Eight institutions were represented. After a long run through Schenley and Highland parks the parade wound up for the forenoon at Luna park, where the automobile club furnished the children a hearty lunch. Manager Fred Ingersoll then turned Luna park with its hundreds of amusement attractions over to the children and for 2 hours they made merry in right good style. The day's arrangements were made by a committee com-

posed of William A. Lewis, George E. Turner and Paul C. Wolff.

**Wayne Twins In**—Two stock cars will be entered in the eliminating trials for the Vanderbilt cup. The two machines are exactly alike, being regular stock chassis of the 50-horsepower model. The Wayne Twins, as they are called, have been shipped to New York to be worked out over the course.

**For Ye Editors' Use**—The automobile will enter prominently into the conventions of the Indiana Pharmaceutical Association and the National Editorial Association, both of which will be held in Indianapolis this month. At the former convention a number of automobiles have been engaged to be placed at the disposal of the women visiting the convention, while at least 100 touring cars will be used on the automobile tour of the city the editors will take.

**Farmers Will Help**—Detroit automobilists have raised nearly \$1,000 to grade the Long lake road, between Circle and Pine lakes, and keep it in excellent condition for automobile driving. The road is to be scraped after each rain and graveled. It will be widened considerably and when completed will be one of the best country roads in the state. Edwin S. George, president of the Detroit Automobile Club, has brought about this proposition to the motorists, and farmers are going to do considerable toward it.

**Rockefeller's Cars**—While John D. Rockefeller, the man of many millions, was amusing himself playing shuffleboard and other games on deck aboard an ocean liner bound for Europe, his automobiles used at his country home near New York city were being shipped to Cleveland, the magnate's home. Two cars, one containing the oil king's automobiles and another carrying his blooded horses, were held in Buffalo for a time on their way to Cleveland. It is needless to say that the automobiles of the magnate attracted more attention among the hun-

dreds of railroad men and others who inspected them than did the horses, for which he had spent fortunes.

**Mileage Fiend**—Philadelphia has a mileage fiend in the person of H. K. Wampole, who, during the 25 days following the delivery of his big Pierce Arrow, drove the car a distance of 3,049 miles—an average of over 120 miles a day.

**Johnny-on-the-Spot**—Rev. Frank Roudenbush, of Fremont, O., missed his train for Fostoria last week, to which point he intended going to officiate at a wedding. The clergyman hired an automobile and made the trip in time to perform the ceremony on time.

**Floral Parade in Smoketown**—June 23 has been set as the day for the floral parade of the Automobile Club of Pittsburg. W. Lindford Smith originated the idea, and President George E. Turner of the club is working hard to make it a big hit. Already fifty cars are promised for the gay procession.

**Spanish Enterprise**—The proposed parade of automobiles from Barcelona to Madrid is catching on wonderfully and it is estimated that at least 100 cars will start from Barcelona. Another 100 will be picked up en route, making 200 cars to go into Madrid. The journey will make an interesting endurance test and do much to popularize the sport in Spain.

**He Ought Not Kick**—Because his share of the estate consisted principally of only an automobile, Lewis Grover Vogel has brought an action in Surrogate Hart's court in Buffalo to break the will of the late Addie B. Vogel, wife of the contestant. Mrs. Vogel's will bequeathed her husband an automobile and the greater portion of her estate of \$15,000 to her sister, Mrs. Alice Schen.

**Goddard Again a Missionary**—Asa Goddard, the assistant secretary of the Cleveland Automobile Club, expects to start soon upon a trip surveying roads for the Cleveland club and for the American Automobile Association, in line with the excellent work which he did last year in the New England states. Mr. Goddard's field of action now will be in Ohio, and it is expected that he will do a great deal to better conditions in making arrangements with hotels, garages and posting signs for the guidance of automobilists.

**Storage Not a Factor**—The contest and technical committees of the New York Motor Club, which have in charge the management of the economy test to be held June 20, 21 and 22 from New York to Albany, to Springfield, Mass., and back to New York, announces that the impression which has been created that in estimating the records of the cars, storage will be charged in the ton-mile competition, is an error. Storage will only figure in the comparisons with the railroad rate and will not enter into the competi-



tive ton-mile computation. Ezra H. Fitch will referee. The superintendent of observers will be E. L. Ferguson and the superintendent of garages M. C. Reeves.

**Gives Trip Preference**—Oliver Edick, a chauffeur at Cleveland, O., asked the court to have his divorce case against his wife advanced for immediate trial because he had to make an automobile trip through the east and he wanted the matter settled before he went.

**Rome Howls**—Because it was not included in the itinerary of the endurance test of the Federation of American Motorcyclists, Rome, N. Y., made such an outcry that 6 miles have been added to the New York-Rochester test and Rome is on the map. This makes the total mileage 389.8 instead of 383.8 miles.

**Mean Business**—The West Newton members of the Indian Horse Thief Detective Association announce they will devote their attention to violators of the Indiana automobile law in the future. Roads will be posted with copies of the speed law and after that the rural sleuths will lie in wait for the driver who exceeds 20 miles an hour. Other branches of the I. H. T. D. A., it is said, will take up the crusade in the near future.

**Busy at the Falls**—Prospects for increasing the membership of the Niagara Falls Automobile Club this season are becoming bright. For its size the Cataract city possesses more motorists than almost any other city in the country. A new garage is now in course of construction in Main street of that place and it will soon be ready to take care of the summer rush. The club is planning to continue the agitation for good roads this year. There are a number of roads near that city which could well be improved for automobiling.

**Endurance Run in Michigan**—A project is now under consideration by which, if plans mature, Grand Rapids, Mich., automobile drivers may have a chance to test the respective merits of their cars. The test proposed is a 500-mile endurance run to be held the latter part of this month or early in September. A trophy, probably in the form of a silver cup, will be offered for the winner. The trip will consume about 5 days and will be run over all kinds of roads. The contest will be open to any car in western Michigan, although all cars must start from Grand Rapids.

**Testing a Racer**—As indicating the expense and care necessary in the construction of a Vanderbilt racer, one detail of the experience of the Maxwell-Briscoe Motor Co. in the construction of the car which is to take place in the eliminating trial in September, is illustrative. J. D. Maxwell, the designer and constructor of the car, was desirous of ascertaining the condition of the cylinder walls and possible defects in structure, due to the slipping of the core in casting. Several cylinders were first cast, then machined, and afterward broken, in order to inspect the thick-

ness of the walls, this being the best way to ascertain conditions with regard to the racer's cylinders.

**Oiled Road for Jersey**—The New Jersey Automobile and Motor Club is preparing to lay a mile of oiled road in Essex county as an object lesson.

**Chicago's "Fire Ball"**—The "fire ball" put up by the South park commissioners in Chicago is fulfilling its mission of keeping automobiles and other vehicles to the right in turning the corner at Thirty-third and Michigan boulevards. Similar warning signs will be erected at other corners.

**Center County Heard From**—At the annual meeting of the Center County Automobile Association, of Bellefonte, Pa., the following officers were elected: President, G. C. Watson; vice-president, A. C. Mingle; secretary and treasurer, Robert F. Hunter. Application will be made for membership in the State Federation of Motorists, and a campaign will be made for better roads.

**Big User of Cars**—Dr. R. F. Bigger, of Indianapolis, has purchased his tenth automobile in 5 years. He uses automobiles exclusively in his practice and always has two or three cars in his stable, one of which is kept ready for service night and day. Dr. Bigger says that although he has used more automobiles than the average man and makes no effort to keep them in shape himself, their use is still much cheaper than horse-drawn vehicles.

**New Cup Put Up**—The Baron de Caters cup is to be contested in 1907. This is reserved for tourist cars and partakes of an endurance as well as a racing character. Many French firms considered that the Targa Florio was a long way off in Sicily and wished to organize something similar nearer home, with the result that the Baron de Caters cup will be run in France over a circuit of over 300 miles, under the patronage of a well-known provincial automobile club. A speed contest

for tourist cars over a long distance is the principle on which the cup is being organized.

**On the Long Trail**—From Maine to Alabama in a Peerless is the route H. G. Wardward recently followed. He had a camera with him and his collection of pictures is a remarkable one. A view of Lake Webb and Mount Blue is one of his best.

**No. 2 and No. 3**—The F. B. Stearns Co. has named two cars for the Glidden tour and has been awarded No. 2 and 3. Arthur Holden will drive one of them and L. J. Petre the other. Messrs. Stearns and Patton, who drove on the Pittsburg run, had intended being at the wheels, but press of business at the factory will keep them at home.

**Early Decision Expected**—That the license test case has reached the supreme court of New Jersey in record time and an appeal perfected and that a decision by that court is looked for at any moment, was the report of the legislative committee to the executive committee of the National Association of Automobile Manufacturers at its monthly meeting in New York. The case will next go to the court of errors and appeals, the highest court of New Jersey, and from there to the United States supreme court.

**French Answer Letter**—The Automobile Club of America has at last received the belated letter from the Automobile Club of France formally announcing its withdrawal from participation in the management of the Vanderbilt cup race. The letter calls attention to its announcement made before the running of last year's Vanderbilt race that it would not participate officially in the next one. The tone of the letter was friendly to the race and not inimical to the participation of French makers in it. In fact, it contained an intimation that the French team could be picked according to the order of the finish of the candidates in the grand prix.



"FIREBALL" AT MICHIGAN AVENUE AND THIRTY-THIRD STREET, CHICAGO

## BRIEF BUSINESS ANNOUNCEMENTS

**Elyria, O.**—The Garford company has broken ground for its new factory.

**New York**—The R. & P. Traction Tire Co. has opened a salesroom at 1655 Broadway.

**Boston**—H. C. Stratton, agent for the American Mercedes, has added the Mora to his list.

**New York**—The Atlantic Motor Car Co. has formally opened its salesrooms at 138 West Thirty-eighth street.

**New York**—The Reo Motor Car Co. has established headquarters in the American Automobile Storage Co.'s garage at 40 West Sixtieth street.

**Boston**—E. A. Page & Co. have opened a salesroom in the Motor Mart. This company is the agent for the Simplicity car, formerly the Windsor.

**Cleveland, O.**—The Holmes-Booth Auto Co., of 2148 East Ninth street, S. E., is building a new garage on Euclid avenue, near East One Hundred and Fifth street.

**Philadelphia**—The South Broad Street Automobile Co., 729 South Broad street, has been appointed the exclusive agent for Philadelphia and vicinity for the Gale.

**Boston**—A company has been organized with a large capital for the manufacture of automobiles, under the patents of T. J. Sturtevant, of the Sturtevant Mill Co., of this city.

**Nashville, Tenn.**—The John W. Chester Co., well known in the automobile trade in this city, has taken the agency for the Stoddard-Dayton. For several seasons this company has had the agency for the Oldsmobile.

**Philadelphia**—J. L. Hoover & Sons have received the contract for the erection of the new garage for the Locomobile Co. of America at 249-51 North Broad street. The structure will be three stories in height, 36.4 by 120 feet, and will contain an electric elevator and offices.

**Indianapolis**—The Pope Mfg. Co. is preparing to erect a new factory for the manufacture of Pope-Waverley electrics, which when completed will give the concern a total floor space of 192,257 square feet. The additions will be given to the finishing and body departments and will greatly increase the department devoted to commercial vehicles.

**Lock Haven, Pa.**—A company, capitalized at \$200,000, has been formed in Philadelphia, which will manage a circus which is to travel exclusively in automobiles. Forty large motor cars are now being built to transport the animals and paraphernalia, twenty of which are to be used as cages for the animals. According to John T. Walsh, who is connected

with the concern, the excessive rates charged by railroads have caused this departure.

**Harrisburg, Pa.**—The Colonial Automobile Co. has been incorporated with a capital stock of \$25,000.

**Boston**—Count Castarelli is now associated with A. A. Stillman in the local agency of the German Mercedes.

**Hartford, Conn.**—The Whitney Mfg. Co. is about to erect a new factory, which will be devoted to the manufacture of chains for automobiles, bicycles and machinery, etc.

**New York**—Alfred F. Comacho has been appointed general manager of the Gaither-Owen Carburetor Co., with headquarters at 40 West Sixtieth street. R. M. Owen is interested in this concern.

**Buffalo, N. Y.**—W. B. Fewell, who has been manager of the local branch of the Goodyear Tire & Rubber Co., has resigned his position and is now eastern traveling representative of the C. H. Blomstrom Motor Car Co., of Detroit, Mich. Mr. Fewell is succeeded by Henry R. Simpson.

**Brooklyn**—The Flatbush Automobile Co. is making preparations for the opening of its new garage at 50-54 Tilden avenue, near the intersection of Tilden and Bedford avenues. The new enterprise is a corporation, managed by M. W. Applegate and Walter Seaman. The new building is of brick, concrete and steel throughout, and has 6,250 square feet of space.

**New York**—The C. A. Duerr Co., H. B. Phinney, president, has bought out the garage of the Metropolitan Auto Co., at 2182-86 Broadway, and has closed its garage and salesroom at Fifty-eighth street and Broadway. Mr. Phinney will be the president of the new concern, which will be continued under the name of the Met-

ropolitan Auto Co., and Mr. Duerr will be treasurer. The C. A. Duerr Co. is the agent for the Royal Tourist.

**New York**—The new garage of the Hartford company, at Broadway and Eighty-eighth street, is now open.

**New York**—M. B. Richardson has been appointed sales manager of the R. & G. Traction Tire Co. and will be associated with John S. Prince.

**Wilmington, Del.**—The Hamilton Automobile Co. has closed a contract with Thurlow & Richardson for the agency of the Queen in Delaware.

**New York**—The Auto-Import Co., American representatives for the Rochet-Schneider, are completing alterations to their garage at 1784-86 Broadway.

**Newark, N. J.**—The Hollywood Automobile Co., agent for the Marion, is temporarily located at 118 Main street, awaiting the completion of its new garage.

**Philadelphia**—H. C. Burnette, manager of the Colonial Auto Co., at Fifteenth and Oxford streets, has just completed alterations which have largely increased the capacity of his garage. It will now accommodate fifty cars.

**New York**—In addition to the new salesrooms of the Aerocar Co., at Broadway and Seventy-seventh street, Percy Owen has established several new agencies, among them being Brooklyn, Philadelphia, Jersey City and Newburg.

**New York**—E. B. Gallaher, importer of the Brasier, is expanding his bureau. L. C. Griffin, freight agent for Europe for the American Express Co., has been placed in charge of the Paris bureau. T. R. Gallaher is the representative on this side of the ocean.

**Boston**—The Boston Automobile Dealers' Association has been incorporated with a capital stock of \$5,000, with the following officers: John MacAlman, of Somerville, president; Ernest A. Gilmoure, Chestnut Hill, treasurer, and Charles S. Jewett, of Boston, clerk.

**New York**—Andrew C. Dam, who was formerly the sales manager of the Gordon Brille company, is now connected with the Freyer-Miller company. In the fall, in conjunction with Albert H. Hayes, Jr., he will go to Oakland, Cal., where they will open an agency for California.

**Kansas City, Mo.**—M. G. Hein has just bought a plot of ground on Montgall avenue, near the entrance to Electric park, and as soon as the ground is cleared will commence the erection of a garage. Accommodations will be provided for 150 automobiles, and the building will be fitted up in the same style as the park, of which it will practically be a part.

## RECENT INCORPORATIONS

**Hamilton, Ont.**—The Automobile Co., capital stock, \$40,000; to manufacture automobiles, motor boats, engines, etc.; directors, W. H. Moore, H. H. Hodgson and J. J. Scott.

**Atlantic, N. Y.**—Atlantic Motor Car Co., capital stock, \$25,000; to deal in engines, motors, boats, etc.; incorporators, J. H. Desmond, B. F. and L. P. Newton.

**Albany, N. Y.**—Willink Garage Co., capital stock, \$10,000; to conduct an automobile storage business; incorporators, H. O. Hyatt, F. H. Banker and C. E. Austin.

**New Haven, Conn.**—Ultra Motor Co., capital stock, \$25,000; to manufacture a special type of motor.

**Passaic, N. J.**—Passaic Motor Car Co., capital stock, \$50,000; to manufacture and store automobiles and do a general electrical engineering business; incorporators, J. B. Ryall, Alice W. Ryall and George Ryall.

**New York**—Itala Import Co., capital stock, \$50,000; to manufacture and repair automobiles; incorporators, Howard S. Velsor, John H. Demarest and Richard Condon.



# American Motor League

## OFFICIAL BULLETIN

National Headquarters, Vanderbilt Building,  
New York

### NEW YORK-PHILADELPHIA

The map this week, like most of the others, tells its own story. It serves as the third section of the popular route from New York to Philadelphia, or the first section of the route in the reversed direction. The best automobile roads are shown by heavy lines, while important connecting routes are also shown. There will be a separate map covering the Philadelphia district and showing the best routes through and out of that city. There will also be maps covering the best routes from Philadelphia to important towns in Pennsylvania and adjoining states.

### SIZE OF MAPS

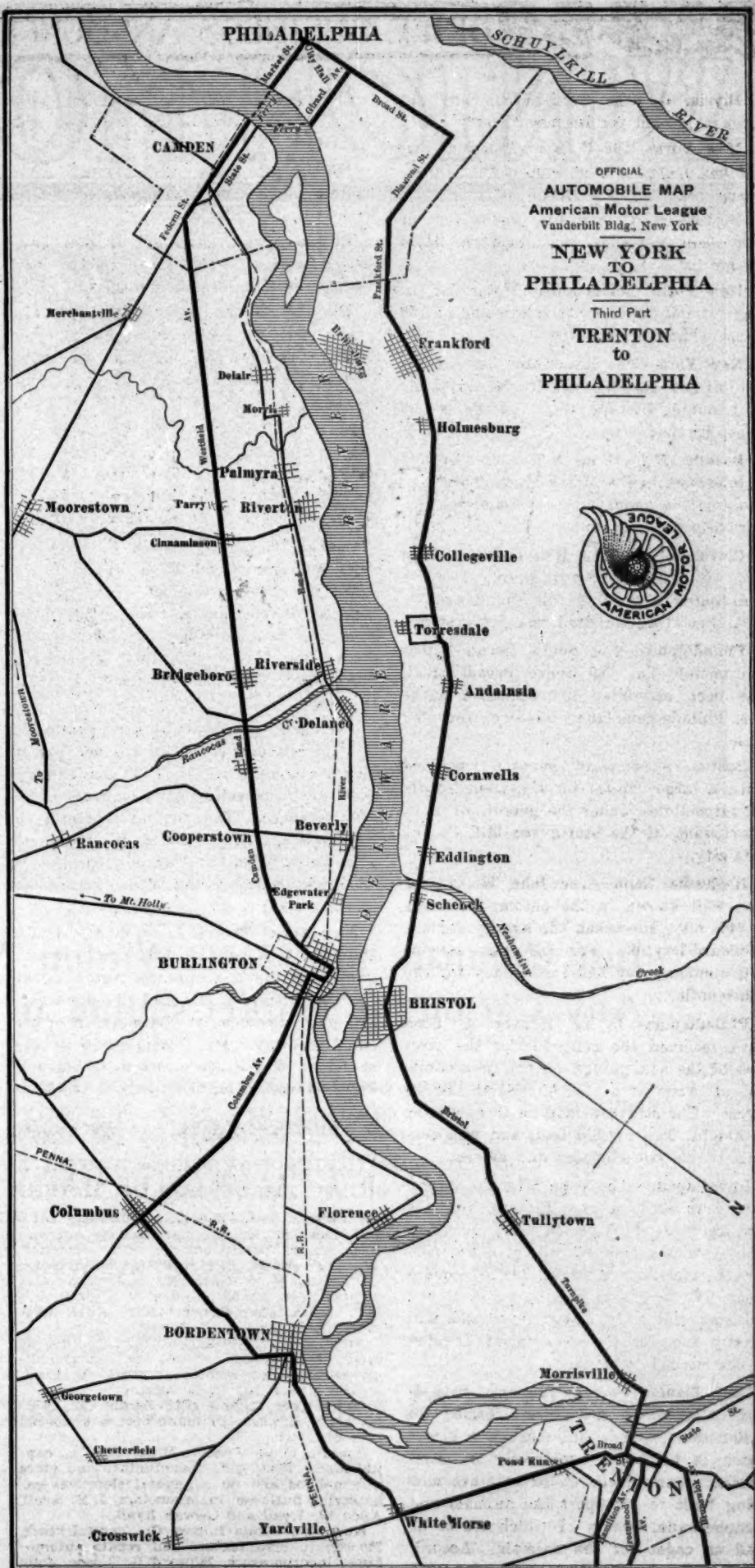
Thus far the secretary has received two letters of criticism—one complaining that these maps are too small, the other insisting that they are too large. They are in fact just right. When printed on cards or in book pages, the card or the book will slip easily into the ordinary overcoat pocket, and if made smaller it would have to be done at the expense of clearness. Now and then it will be necessary to make a map showing smaller territory, in which case the rest of the map-page will be given to text describing the routes.

### FREE TO LEAGUE MEMBERS

All these maps and many others will be printed in the official A. M. L. road books and each member will receive a free copy of the book, showing many thousands of miles of routes in and beyond the district in which he resides. In the meantime these maps will be printed in convenient card form, each card having printed upon its back a description of the routes shown by the map. Ten of these cards will be sent free to each member of the league and beyond that number they will be supplied to league members at a nominal price to cover actual cost of handling and mailing, say from 5 to 10 cents each, according to the number taken.

### MEMBERS WANTED

There are reasons why every automobilist in America should be a member of the A. M. L. There are no reasons to the contrary. Full printed information, describing the objects and benefits of league membership, will be sent on request. No initiation fee. Dues, \$2 a year. Address American Motor League, Vanderbilt building, New York.



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